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SENATE SELECT COMMITTEE on FOOD-BORNE ILLNESS
SENATE AGRICULTURE COMMITTEE**

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Farm Fresh Milk: Assuring Safety & Consumer Choice

**Senator Dean Florez, Chair
Senator Able Maldonado, Chair**

SENATOR DEAN FLOREZ: Let's go ahead and begin. It's about 5:10. I'd like to thank my co-chair for the hearing, Senator Maldonado, who chairs the Standing Committee of the Senate on Agriculture. I do know that, as you have probably found out, that our bill deadlines are Friday, thus you see a rush to get bills completed. I know Senator Maldonado has a few places to go, as well, in order to get some of those bills ready for tomorrow. I am sitting with you all night, and so, I've gotten my bills done early.

And I would like to thank the chair of the Agriculture Committee for allowing us to do this jointly. I'm Senator Dean Florez, and I chair the Senate Committee on Food-Borne Illness.

So, this is a good opportunity for the Senate to get a very good picture of what we didn't really get a good picture on at the last session, which was raw milk.

And I very much appreciate everyone showing here tonight. It's really your opportunity, in many cases, to listen to both sides of the raw milk debate. I can tell you this is meant to be a comprehensive examination of the issues related to farm fresh milk, also known as raw milk.

Today, we want to identify and further understand the nature and scope of the various regulatory issues associated with the production of

raw milk as well as the health and consumer issues involved in terms of the consumption of raw milk.

Towards this goal, the Committee is trying to look at a broad range of witnesses. We'll have testimony, obviously, as you see from the agenda, from two panel of scientists, public health officials, owners of two dairies that produce raw milk, companies that sell raw milk at the retail level, and, of course, the individuals, the consumers who consume raw dairy milk as part of their normal diet.

Noticeably absent today is the California Department of Food & Agriculture which refused repeated demands by me to appear before the Committee. As the agency responsible for the regulation of the raw dairy industry, we believe that this is absolutely something that we probably don't condone from an oversight perspective. And clearly, I think it's an insult to the oversight process here in the California State Senate. I can tell you it will not go without notice as we move through the year. CDFA's refusal to show tells me that there is some lack of confidence, quite frankly, in even some of the standards being put forth. I really would have liked to ask CDFA quite a few questions. We're not going to have that opportunity today, and the reason we're not is, apparently there seems to be a legal litigation issue.

I do applaud the Public Health Department for being here. That legal dispute could have easily been resolved by simply saying, "Senator, I can't answer that question; we're in litigation." But, nonetheless, we will proceed on without CDFA's participation.

I can tell you that as someone who has grown up in the Central Valley, I know there is a long tradition associated with the consumption of raw dairy products. I can tell you that, and this room obviously demonstrates that this tradition has spread not just in rural California but throughout California. And I want to thank you for a very good showing, if you will, of folks who are concerned about this issue.

Obviously, as I've mentioned, as the chairman of the Food-Borne Illness Committee, we want to ensure we have the strongest regulations in the entire nation when it comes to raw milk. At the same time, we want to make sure that we have raw milk to consume, and so we have to make sure there is some balance there. And our goal is try to find out where that balance is—where that line is drawn. And I do very much appreciate everyone, again, showing here today.

With that, I'd like to ask Senator Maldonado if he has any comments and then we're going to begin the hearing.

SENATOR ABEL MALDONADO: Well, first of all, it's great to see a great turnout. And thank you all for coming. I wanted to take a moment to thank Senator Dean Florez for moving forward with this informational hearing. I must say that I would echo his comments. It would have been nice to have the Department of Food & Ag here. It's a hearing. It's an informational hearing. It's more information on an issue that I think it merits more information. So, I'm looking forward to hearing from you.

As Senator Florez stated earlier, I'm going to have to sneak out here and there. I've got other places that I need to be at. But it is my honor to be here with Senator Dean Florez and to make this joint informational hearing and to get more feedback. I know it will be on tape; it will be on transcript, so any other member of this House will have that opportunity to go there. And, obviously, maybe Senator Florez can send them to the Department of Food & Ag immediately since they weren't able to make it here..

Thank you, Senator Florez.

SENATOR FLOREZ: Thank you, Senator Maldonado. I'd like to also welcome Senator Vincent for being here as well. And I do know that there will be Senators and Assemblymembers joining us throughout this hearing at certain points of time. I do want to echo what Senator Maldonado said, the purpose of this hearing is to go on the record and to make sure that we have a transcript that all of you can

read, we can pass around, and more importantly, as raw milk bills begin the process from the Assembly to the Senate, we have a good understanding, if you will, of what we need to do and what has been done on this topic.

With that, let's go ahead and begin the hearing.

I wanted to start the hearing talking to and dealing with the issues of assuring safety and consumer choice. So we have a panel of consumers. And so, I'd like to ask them to come up, please. That would be Dale Jacobson, Brian Dickman, Christine Chessen, Liz Reitzeg, Beverly Ramos, and Michael Schmidt; if you all could come up. And we appreciate hearing your testimony.

I also have some questions for the panel, and after that, we're going to turn it over to Panel-2, which will be talking about the issues surrounding the safety of raw milk. And then we'll proceed right after that.

So I do want to thank the panel for being here. I very much appreciate your testimony. I'm not sure if you all have written testimony, but I'd like to, if I could, begin with Mr. Dickman; and then we'll go to Mr. Dale Jacobson; and then we'll proceed from there.

And I should say before this panel begins, I want everyone to know that this will not be the only opportunity to have your voice heard. There are sign-in sheets at the sergeant's desk. I promise to stay here until the last person speaks. So, if you would like to have a word after this hearing, particularly we would very much like to hear your comments.

We started this hearing with a consumer panel because we always save the consumers until the end and somehow the weariness of the night goes on and we never get to hear from the purveyors of this particular product. And we wanted to start tonight with a sample representative group of folks that might give us their perspective.

So, if there's anything that you did not hear from this panel, let me repeat this, if someone in this panel said exactly what you would have

said, don't come up. If there's something that you really want to put on the record that wasn't said in this panel, absolutely come up. So let's just create that little ground rule, if we could. But if you want to come up, at the end of the day, that's not a biggie either.

So, let's go ahead and start with Mr. Brian Dickman. Thank you for joining us.

BRIAN DICKMAN: Senators Florez and Maldonado and Vincent, thank you for this opportunity to speak to you. My name is Brian Dickman. I'm an attorney. I practice business transactions law in Silicon Valley. My wife works harder than I do. She stays at home raising our four kids.

I was asked to speak because I'm lactose intolerant. When I was a kid I grew up in a family where we drank milk for everything—breakfast, lunch and dinner and any other time we could. But in the early eighties when I was a teenager I began to develop diarrhea and gas constantly. The gas was easily explained—farting teenagers is no surprise to anybody. But it became a concern when I was not gaining weight and had diarrhea every day.

The doctors ran all sorts of tests on me. They finally concluded that I must have some exotic undetectable parasite so they put me on a series of drugs over a few weeks that were designed to kill any creature living in my gut. I was horrified by this. I expected to find some weird two-foot long worm in my stool someday. Fortunately, that never happened. But the doctors had no other solutions and the diarrhea continued.

My dad did some reading and he figured out that I might have what might be called lactose intolerance. So I did what was unthinkable in my family, I stopped consuming milk products and the diarrhea ceased.

So at the time there were no other milk substitutes like soy milk or rice milk. I tried non-dairy creamer on my cereal once; it didn't taste too

good. I also tried Lactaid pills but this didn't work either. So I began to avoid all products containing milk. When soy and rice milk came on the market I was in paradise because before that, I used to put orange juice or apple juice on my oatmeal instead of milk; now I could put the orange juice in the glass and eat my oatmeal with soy milk or rice milk.

Last Christmas my wife gave me a book by Barbara Kingsolver called *Animal, Vegetable Miracle*, and in that book she describes that her family is lactose intolerant and they loved to eat cheese. The way they eat cheese is they make their own cheese at home and she describes in her book that they don't have any problems when they do this. I was curious so I went on the internet and did some reading to figure out how this could happen and while I was perusing the internet I find out that perhaps drinking farm fresh milk might be a solution for me.

Anybody I mention this to all have the same reaction. They all said, well, that's illegal. So fortunately, I found out it's not illegal in California. So about mid-February, I found some raw milk in my local Whole Foods Market; bought it and brought it home. And I decided I would do the test on a Saturday morning, where I would have all day Saturday and all day Sunday to recover before going back to work on Monday. So early in the morning I poured myself a tall glass of milk and I did something I hadn't done for 20 years, I downed the glass of milk and sat there and waited and I expected to be in the bathroom within

15 to 30 minutes. After an hour, nothing happened so I poured a bowl of celery; put the raw milk on the cereal; had a glass with my cereal, of milk, and waited some more. I wanted to give myself a heavy dose because I didn't want to mess around with ambiguous results. Nothing happened, and it was beautiful so I kept drinking raw milk all that week and things worked.

Then, I decided to make my own cheese. And with that cheese I made lasagna and I had lasagna for the first time in 20 years.

I tried to be a little scientific about this so I went off raw milk for a while and started drinking pasteurized milk. And sure enough, the diarrhea came back. In fact, I bought a sandwich at an Italian place, a prosciutto sandwich with mozzarella cheese on it. I always get it without; this time with. And within about two to three hours, my gut was wrenching and I was sick until the morning. And it was two days after that, that I had the lasagna with my homemade mozzarella that worked just fine.

So, I appreciate the opportunity to speak. If I just may take a minute, this reminds me of a time in India during Mahatma Gandhi's time; there was a salt tax and under British law it was illegal for anyone besides a British controlled entity to make or process salt. Mahatma Gandhi started his first act of civil disobedience by marching to the sea where he was joined by thousands of Indians and he did something crazy, he made his own salt and consumed it. He was thrown in jail for a year for that.

One of the critics of the salt tax said, "From time immemorial the people had been accustomed to manufacture salt from sea water or from the soil. That right had been taken away from the people by the British government. It prohibits the people from utilizing the salt which has been given by nature and forces them to import it from abroad." Almost 25 years after George Orwell's date, 1984, we find ourselves subject to strikingly similar laws where it's illegal now to transport raw milk across state lines. Fortunately, it's still legal in California to consume it, but we're here debating that very issue.

People have been drinking pure fresh milk straight from healthy cows for thousands of years. These people on the mural behind us all drank raw milk. We should have the freedom to buy fresh milk from responsible farmers who raise their cows in natural clean environments. I need this milk so I don't have diarrhea anymore. My 15-year-old son also has begun to show signs that he may be lactose intolerant. The state

and federal government need to protect our freedoms to do what people have been doing for thousands of years—let us buy farm fresh milk.

SENATOR FLOREZ: Okay, let's go ahead and hear from Dale Jacobson.

DALE JACOBSON: I'm a chiropractor up in Nevada City and I've been in practice for 30 years now. And I was raised on raw milk myself. My parents always would go out and buy goat milk and we'd get raw cow milk from various farmers. And my practice is a strong chiropractic practice but very much nutritionally oriented and I give no supplements in my office so everything is food; it's a little bit different approach. And for the last 30 years, I've been giving milk products, particularly ferments, to patients.

And so, my wife was a La Leche League teacher. When we were advising women who were not nursing to translate into a different food, they were given raw goat milk. They did quite nicely. Later on they can do raw cow.

Fifty percent of Americans now age 50 have hemorrhoids—quite amazing. Fifty percent of all 60-year-olds in this country have diverticulitis, which is very much unheard of in most other countries that are doing raw milks and ferments.

So I simply give most of my patients with intestinal problems a goat milk or a raw cow milk or a yogurt or a kefir from what's called field milk, and most of these are raw products. And what it does to their immune systems is quite amazing, which I'm sure you all are going to be hearing about.

And I've literally have had people leave the hospital from drinking goat yogurt who were unable to have bowel movements and were basically locked in there. So, raw milk is also a form of raising the dead in many ways, particularly your yogurts and your ferments and that should be brought up a bit. But I've had very good success over the last 30 years by giving patients raw milk products.

SENATOR FLOREZ: Liz Reitzeg. Thank you.

LIZ REITZEG: Senator Florez, Senator Maldonado and members of the committee, thank you for holding this hearing and for your commitment to the people of California. My name is Liz Reitzeg. And I am the president of the Maryland Independent Consumers and Farmers Association. I represent the National Independent Consumers and Farmers Association.

We are America's sustainable farmers and the millions of Americans who depend on them. The entire country is watching the state of California right now as California works to preserve the rights of all Californians and Americans by maintaining the maximum level of freedom for all individuals.

You have the unique opportunity to not only create and support legislation but to delve into the far reaching benefits of fresh milk sales for yourself and your life. I hope that you take the opportunity to listen openly to this issue and look at the profound advantages to having this food available and what these advantages will mean to the well-being of the people of California and the larger scale rewards to the country and planet.

You have heard testimony, and will hear more, about the safety and benefits of fresh milk. The economic and environmental benefits are noteworthy as well. With a high demand for fresh milk the market can demand prices many times higher than conventional milk fetches. These reasonable high prices provide sustainability for small farms and keep acreage and farming. Further, demand for fresh milk grows exponentially and this consumer base seeks only high quality fresh milk from grass fed animals.

National awareness of the benefits and pursuit of fresh milk is gaining momentum across the country. A bill has been introduced in Congress to recognize the rights of states to transport fresh milk from states where it is legal to other states where it is legal. This is a small

example of the effect of the burgeoning grassroots movement towards local sustainable food sources.

The people of California have the inherent right to access this life-giving, health promoting nutrient dense food. We ask you to recognize these rights also and pass legislation sustaining these freedoms.

We support such legislation as it is a step towards recognizing consumers' rights to purchase the food that they choose for their families. This is a constitutional, God given right.

On a more important level than the health benefits of fresh milk is the issue of non-representative government in the form of unelected agency personnel denying our freedoms. The Preamble of the California State Constitution states that the people of California, grateful to almighty God for our freedom, in order to secure and perpetrate its blessings, do establish this constitution. Section I of the Constitution further clarifies that the people of California are by nature free and independent and have inalienable rights. Among these are; enjoying and defending life and liberty; acquiring, possessing and protecting property and pursuing and obtaining safety, happiness and privacy. The Constitution, the State's word of law, protects Californians' lawfully recognized and God given right to consume the foods they choose for themselves and their families.

As elected legislators, it is your responsibility to ensure the rights and freedoms of all Californians. By supporting the freedom of consumers to purchase and farmers to sell, you protect the individual freedoms that we all hold in such high regard. As Thomas Jefferson stated, "I know of no safe depository of the ultimate powers of the society, but the people themselves and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them but to inform their discretion."

We are the American tradition of heritage, sustainable farming and the American consumers who support local sustainable food.

Thank you for your efforts in restoring our freedoms to continue farming and feeding our families and communities.

SENATOR FLOREZ: Thank you very much. Okay, let's go to Christine Chessen, Michael Schmidt, and Beverly Ramos.

CHRISTINE CHESSEN: Thank you, Senators, for the opportunity to express my enthusiasm for raw milk today. My name is Christine Chessen. And I live in San Francisco with my husband and three young children ages ten, seven and four. I consider myself to be fairly well educated with an applied math degree from UCLA and an Ivy League MBA.

We don't have any allergies or asthma or lactose intolerance or any chronic or significant health issues in our family. We're lucky to have the best available medical care. My kids go to the best schools in the city and we have a pretty comfortable lifestyle. So for us, the status quo has been working out really well. And from time to time I've even patted myself on the back and say "Good job Super Mom."

So until recently, I would have never had a reason to think twice about our milk or to identify with the crowd of people that are here today. And if someone had told me not long ago that they were drinking raw milk, I would have thought that they were part of some weird kind of fringe cult that lives out in the woods and only bathes in the rivers or something like that. (laughter) I know you really don't, but that's what I would have thought.

But last fall, as my kids starting spending more time in school and I started to emerge from my mommy cave, I enrolled in a part-time nutrition program and started to learn about the health benefits of whole, unprocessed foods. I didn't even know what raw milk was or realized it was available until I saw it one day at my grocery store. It took a few more trips to the store and a deeper understanding of nutrition for me to finally get up enough courage to buy it and then gradually start sneaking into our kids and my milk glasses at home.

For seven months now, since October of last year, we've all been drinking at least a glass or two of raw milk per day. And as this past March rolled around, I realized that for the first time ever, all five of us made it through the entire cold and flu season without so much as a sniffle—no colds, no flus, no fevers, no tummy aches, no illnesses—nothing. And we didn't get flu shots either, this year. And much to everyone's disappointment, there were no missed school days and no missed work days. And even I didn't get sick, which is good, because as everyone knows, if mommy goes down, the whole house goes down.

And one more side benefit for me personally, after three kids and seven years of Pilates, it wasn't until I switched to raw milk that my postpartum pouch finally started to go away and I swear it's because the raw milk is more digestible. But even more important, we haven't used a single drop of any of these cough or cold medicines in over a year, which is good because now the FDA and the American Academy of Pediatrics have actually come out to say they might be dangerous for kids. And usually by springtime we've gone through at least a bottle or two of these per person.

Finally, it's been such a pleasure not having to deal with my kids snotty noses and their dirty Kleenexes lying all over the house that they never throw away.

So I've realized that even with all my education and good fortune that we were missing out. I admit that I am one of those neurotic wannabe perfect moms and I read stacks and stacks of parenting books and subscribe to all the parenting magazines. I thought I was doing the best I possibly could. But what I found out was that I was not well educated and I was not well informed about what was optimal for my family's health.

Now I understand that nature provides us with foods that are complete, with all the enzymes, vitamins, minerals, beneficial bacteria and fats that we need to not just survive, but to thrive. The impact raw

milk has had on our well being is remarkable. And I just want to keep being able to buy it at my store.

I do look forward at what all these experts have to say today about how and why raw milk actually works. And after this testimony, I hope you, too, members, are educated and informed and that you're willing to preserve my access to nature's truly most perfect food.

SENATOR FLOREZ: Great. Thank you very much. Okay, we have Mr. Michael Schmidt. Thank you for joining us.

MICHAEL SCHMIDT: Mr. Senator, I'm from Canada. I don't know even if I should speak here because I am probably the only one who has a warrant out for him for selling and providing raw milk to people who are desperate to have it to raise healthy children, as we can hear.

I'm very honored to sit in front of this Committee simply because I'm coming from a country (and it's hard to believe) which has a total prohibition on raw milk.

I was born in Europe, raised in Europe and got my masters degree in farming in Europe. And in Europe they have a well regulated raw milk system in place. And when you follow the news there is nowhere where you can find that Europeans die like flies because of consumption of raw milk.

In Canada, we're battling, heavily, that legislation. There's even no debates. And so, I think it is a wonderful opportunity for me to speak in front of the so much criticized Americans, that they have an open ear and open eyes for this subject.

As you know, this is not a crazy idea of farmers who want to get rid of milk. This is an entirely consumer driven need. And it is a need not because of whacky consumers who think this is the new fad, it is clearly that parents are so concerned about the health of their children that they have no choice but to really look at alternatives, and raw milk is one of these wonderful alternatives to raise the children healthy. I think it is

wonderful that you are approaching that in a very constructive way; that you start listening to the consumer.

For me, I am in the middle of this battle battling...unfortunately, I have to say that a police state which uses heavy police force to hunt down people who produce this healthy food.

It is of utmost importance to recognize the will of mothers, to respect the will of mothers who want to raise their children in a responsible way. And that the government recognizes that do not touch mothers who want to raise their children.

And it's wonderful to see all these men up here who have an open heart for women. But at the same time, I think, and I saw before, a few female senators, and I hope that you will tell them these stories, that the understanding from the government's side, that do not reject mothers because mothers are dangerous if the lives of their children are at stake.
(laughter)

I'm really honored that I was able to speak here. I'm fully in support of your work here. And I will bring the message home to Canada that there is hope coming from America, from the United States.

Thank you.

SENATOR FLOREZ: Thank you very much. Great testimony. Beverly Ramos, thank you for joining us.

BEVERLY RAMOS: You're welcome. Hello. I absolutely love raw milk. And I am so nervous right now.

SENATOR FLOREZ: Don't worry. Take your time.

MS. RAMOS: I'm feeling very hopeful right now, hearing other people speak. I didn't always love milk, but I love raw milk. I grew up with the standard American diet, just about probably better than most kids but dairy was certainly a part of that. And I had all kinds of skin problems and digestive issues at times and I never had a clue that it was caused by dairy. It wasn't until I was a young adult that I discovered that dairy caused problems for me so I cut it out of my diet entirely. And

thought cow's milk was only for cows. So I've been on the other side where I just thought, "This is crazy for us to be drinking this." And over time, I was introduced to raw milk and did not....it took away my skin issues and other issues—digestive. I'm really grateful for it. It's a huge support to me and my nutrition.

And along the way, I had children and I was hesitant to give them dairy products. And this was before raw milk. I did let them have ice cream. It's real hard to say no when you go to a birthday party, you know, really hard. So, they would have that and they would go to Grandma's and have milk and cookies, and it's really hard to say no there too. And every time they would have mucus, congestion. My daughter would (she won't like this) have constipation, other problems. And so, I really limited her use of dairy products.

And once I did get into raw milk, I let my kids have it tentatively. I was having it also. And they didn't have any problems with mucus, no problems with congestion, no constipation—absolutely nothing. They just seemed to thrive.

And another good point was that my daughter didn't get any ear infections from raw milk. She did get it with pasteurized dairy products. And so, for me, it's so important for me to be able to give this to my children and to give it to myself. And my husband, he also is lactose intolerant and can drink raw milk with no problem, and it's been his whole life. So, he's now 50 and he drinks milk.

Something else that came across my thoughts today was that there are babies that really thrive on raw milk formula. And I have been a La Leche League leader and there are women who can't breastfeed. I believe breast milk is best but in lieu of that, I have seen babies thrive on raw milk formula.

And I just really would love for it to be available.

And I've also been thinking about how do I know my children are healthy? First of all, there are no negative side effects. And I like the food

and health and medicine do no harm. My kids are very strong and healthy. They have great teeth. We don't go to the doctor. There are no problems in our family—no eczema; no congestion, all those things that I said. And I don't need to keep repeating it.

I'm just very grateful for this opportunity. Thanks.

SENATOR FLOREZ: Thank you. Let me ask a couple of questions to bring out some of this conversation and then we're going to go to the next panel.

To the women who spoke, and in general, I guess, this is a product that is not widely available in our retail chain; is that correct? So in other words, it's not something that you'd walk in and see on any shelf? So what makes you take this leap of faith? What would make you, not knowing it's not widely available; give this to your children? I mean, if you think about it, that's really....if you're giving it to your children, you are making a conscious choice that some may not make, so why did you do that?

MS. RAMOS: I had experimented with raw foods in general and was really drawn to that, and then I started questioning, well what about raw meat; what about raw milk? And I had had so much success with other raw foods that it was just something I thought I would try, and when it was okay for me, then I was feeling comfortable to do that with my children.

SENATOR FLOREZ: Okay. Anyone else?

MS. CHESSEN: For me, it was available at the store that I usually go to—Whole Foods in San Francisco. And it's also available at Rainbow Grocery in San Francisco, which is the other store that I go to often.

And I don't know if many people here are from San Francisco, there's a couple of Whole Foods Outlets in San Francisco and they're very popular; I mean, valet parking, the whole deal. And so, I saw it right there sitting next to the organic milk and I thought, "Hey, I'm nutrition

school. I've heard about the benefits of raw milk. I'm going to go ahead and try it," and it's worked out fine.

SENATOR FLOREZ: Okay.

MS. RAMOS: For me, it's also been seeing other families who give their children raw milk and seeing how well those kids do. And knowing that I want the absolute best for my kids, I'm going to give it to them.

SENATOR FLOREZ: Okay. I mean, the reason I asked the question, obviously, is it's the thought process that the things that are in our retail stores, not the Rainbow store or the Whole Foods store, I mean, these, obviously, are stores that aren't available in Senator Vincent's district in South Central; aren't available in some of the poorer communities in the rural Central Valley that I represent; I think at the end of the day, this is not a product that is widely distributed...

MS. CHESSEN: That's too bad.

SENATOR FLOREZ: So therefore, because it's not widely distributed, it's something that people may question as being safe because it's not on every shelf and it's a specialty product. So the question I have for you is; what made you take that leap of faith? I mean, did you all...is this a word of mouth type of campaign? Is it something that you learn about in nutrition class? Do you simply....at some point, you walk into a store and you ask for raw milk. You don't walk into Safeway and find it, I assume, so why are, at the end of the day, given what California has done with the Governor's signing of this bill last year, why is it a big deal? I mean, so what? I mean, the Governor is limiting a product that he feels (because he signed this bill) may not have the highest safety standards; is it a wrong decision on that part; is it limiting access; is it limiting choice; and how do people get to make the choices you make? I mean, what made you, it's a very threshold question, you know, how do you go from pasteurized milk to raw milk? And I'm sure it's not the other way around unless your Mark or someone who produces.....you go from raw milk and you probably

never go over to pasteurized. But, I mean, for most of you, you started on pasteurized milk, correct? And particularly some of the issues that you were dealing with, how do you make the jump to raw milk knowing that in Canada and in some places it's completely banned?

MS. RAMOS: In all honesty, it was a little scary. I mean, just trusting....

SENATOR FLOREZ: Yes, I want to know.

MS. RAMOS: I did have some amount of trust. I did not just try it out of the blue entirely. I did some reading and asked people, "Have you had this?" and heard good things about it. And so, I was developing trust and took a risk and it was darn worth it.

SENATOR FLOREZ: Okay.

MS REITZEG: Yes, I'd like to add to that too. I agree, it's very much a trust issue and it's a shift in paradigm, where we know that our kids can go to school or just about anywhere and get any kind of soda or other highly sugared food and that might not be something....that's widely, widely available and encouraged, and yet, they don't have this....like you mentioned, they don't have this healthy alternative widely available. But it is a trust issue.

SENATOR FLOREZ: It's a trust issue, and yet, you've all given it to your children so I'm just kind of wondering, you know....there's a label, it's a government warning label on raw milk. And so, you know, it's there. So, I mean, how do you as consumers get beyond the label?

MS. CHESSEN: I think it's more of an education issue that most people just don't know about it. Most people believe what they hear; they go to the regular Albertson's, Safeway or whatever and they buy whatever is available, like you said. And raw milk is not available in most communities. We're very lucky to have it, particularly where I go. I can just go into the store and just buy it. I did not seek it out. I just happened to see it sitting there and heard about, again, the benefits of

whole, unprocessed foods. I didn't even see the FDA label. I just thought, "Hey, I can try this." (laughter) I didn't. I didn't see the FDA label.

And once you kind of start learning about it and delving into the biology of how it works and its nutritional benefits to the immune system, I mean, how can you deny your family access to that? You know, I figured, I can always try it; if they get sick, so they get sick; we'll go back to pasteurized milk.

I also assumed my supermarkets, where they carried it, had done some research and some kind of vetting out of this product. So once I kind of started thinking about the science and then reading about the history of it and how, you know, like you said, we've been drinking raw milk since we've been existence, I thought, "Gosh, you can't really fight nature." Nature kind of provided us with this complex food that has everything in it that we want, so why don't I just trust nature?

SENATOR FLOREZ: Okay. Yes.

MS. RAMOS: I think these are two significant points. One is that nature gives us such perfect food in general, and that was behind it. Another thing was that I know a lot about breast milk, having been a La Leche League leader, and when it's pumped it has these properties in it that kill germs and that actually, I figure, that's got to be similar with cows too. There are these properties that kill bacteria and germs, and so, I found comfort in that, thinking that is bound to be there.

SENATOR FLOREZ: Okay. Gentlemen, you can jump in now. I'm sorry, I didn't mean to monopolize it with the women on the panel. But, you know, the FDA's policy statement, and let me get your take on this, says, "Drinking raw milk is like playing Russian roulette with your health." (laughter) Okay, that's the FDA. So, again, why....Canada, it's banned. What is it, from your perspective, not having the product at all in your area and to travel all the way to California....and thank you, sir, for doing that because I think it's important to see where California

might be if we don't, in essence, figure this out and get a proper balance. So, can you give me your perspective on that?

MR. SCHMIDT: Well, politically I just draw your attention to the fact that when there's a total prohibition then usually you develop a black market, especially when the consumer recognizes that they need it for their health. And it's not a leap of faith in that there is an instinctive knowledge, what the women said here, that there is some goodness in it because how can it be wrong when for the last 1,000 years America was built strongly on the reality of raw milk and suddenly it's Russian roulette? And I only can speak, I cannot speak for the U.S. but I can speak for Canada, that we have an incredible strong milk lobby which protects viciously any development of a market which might expose the problems we have with pasteurized milk. And one just needs to recognize that this is not a statement to infuriate the industry, but it's a reality. That as more people drink raw milk, as more it comes out what dangers are connected, actually, to drinking pasteurized milk, and there's no warning label on the pasteurized milk (applause).

SENATOR FLOREZ: Right. (applause) Well, I don't know how long you're in town but there's also a little lobby called that in this Capitol building as well, so stick around. It's not just in Canada. It's a very strong lobby. And so, let me ask you a question on how you would characterize the warning label? What purpose does it serve, from your vantage point, on raw milk? Given your statement, what purpose does the warning label give us?

MR. SCHMIDT: Personally, I view the warning label simply as we can do to stop it so let's put something in which makes it really dangerous. I don't think it has validity. Knowing that when you have responsible producers of milk, there's no problem. And knowing, also, the signs we have now available that actually the safety of raw milk is far greater than the safety of pasteurized milk because you have....and you will hear that later on with the experts, which has basically all the built-

in immunity is gone in pasteurized milk. So, I would say I would view that when the government warns that you shouldn't drink that because of bacterias, go and drink it; it must be good. (laughter)

SENATOR FLOREZ: Okay. Let me pause and thank Assemblyman Berryhill for being here. Tom, thank you for being here. I know you were here earlier but I was so enticed by the testimony. Thanks for being here. A member of the Assembly....a very good member of the Assembly and, of course, understands this issue probably better than anyone. I want to thank him for being here.

Let me just ask a few more questions that I'd like to get out on the table because I think these are the things you hear in the building and I just wanted to give you an opportunity to respond to it. I'm sure when the scientist folks come up we're going to get into the nitty-gritty of it. But, you know, you all characterize this as some sort of panacea; some sort of cure-all; is that what this is? Is this product going to solve all of the things you've mentioned—asthma, children's sickness, if you will, all the things that one goes through? Why is it that this is somehow, when I hear about this, people say it's a "snake oil;" "it's not the product that you think it is;" "it's something that at the end of the day, is dangerous." But yet I talk to folks and you look in their eye and they just are glazed over. I mean everything in the world that is positive in terms of their health, you just feel it, you see it. And I'm not going to say it's not true, you can't deny it because, obviously, look at the amount of folks here today. I mean, people normally don't travel to Sacramento unless there's a real reason for it. So why is that? Why do you feel so visceral about this product? I mean, we do a lot of products in Sacramento. We talk a lot about different issues. But why is that? If someone could just characterize it for us.

MS. CHESSEN: Well, I don't appreciate it being referred to as "snake oil" or that it's bad or anything like that. I think much of that might have to do with the previous experience we've had with raw milk in

California at Altadena Dairy and all that, which I don't fully understand but you'll hear more about it.

But I personally, I visited organic pastures outside of my hometown of Fresno and I saw how it was produced. As you can see the picture here, the cows, they do graze on green grass. They're not kept like this picture over here. And just again, from my understanding of nature and biology and how everything works together, that's how I came to feeling that it was okay. So I think there's a lot....again, it's an education process and there's some old fashioned myths and rumors that need to be dispelled. Because people way back at the turn of the century, they did get sick from raw milk but there are a lot of reasons why that happened, which you'll hear more about later.

SENATOR FLOREZ: And there were four deaths of pasteurized milk in Massachusetts, right? It's not as though this product is any different than all the products that we look at.

MS. CHESSEN: Right. Malt-O-Meal, I mean, we just saw on CNN yesterday, people were sick...

SENATOR FLOREZ: Salmonella.

MS. CHESSEN: Salmonella, Malt-O-Meal, sushi and sprouts.

SENATOR FLOREZ: Well, you're talking to the right committee. We're the Food-Borne Illness; we have a litany of things to look into.

Let me just ask a final question: Do you see this product as different then? Is this just a completely different product, a milk product, or is this completely different than pasteurized milk in your mind? I mean, this could be considered, like, put four things down from milk, not next to pasteurized milk, so it would be like, milk, cheese, and then whatever, and then there's raw milk, or is this just right next to milk so one makes the choice? There's raw milk and there's pasteurized milk, but sometimes when I talk to folks about this, it seems that they really talk about this as a completely separate product distinct from the

pasteurized milk that they have in their hand, would you consider that a correct characterization?

MS. RAMOS: I consider it a completely different product, but I would like to see it right next to it and people have awareness and notice it and have choice and then look into it. I wish my mother had known about it when I was a kid. I would have avoided a lot of problems. The nutrition from it is totally different. There are no side effects.

SENATOR FLOREZ: How about the taste, any different?

MS. RAMOS: Oh, it tastes great.

MS. CHESSEN: It tastes like milk.

SENATOR FLOREZ: Okay. Well, I mean, it's so characterized. We're on the record. We're building a transcript. So, we can't capture all the laughter, sorry. But we'd like to get it on the record, what is it? Is it taste that draws you to this at this point in time, beyond the beneficial health items that you've mentioned? To someone reading the transcript, explain it to....someone explain it to us, what is this raw milk? Why does it taste different?

MS. CHESSEN: I think once you start getting used to raw milk, sometimes at first....I used to always drink pasteurized skim milk because that I was told from my doctors—that was the best, and that's what I was used to. And when I first started drinking raw milk I was like, "Oh my gosh, it's so thick and it tastes so much like milk or something, which I never tasted." So now if I'm away somewhere and all I can get is regular milk or skimmed milk, it tastes like water. It just tastes empty. It tastes dead compared to raw milk. And that makes sense because raw milk is a living system built inside the food. So once you get used to it, it's like getting used to anything. You know, it's a little bit different. It's milky. (laughter)

SENATOR FLOREZ: Okay. Assemblyman Berryhill, do you have any questions?

ASSEMBLYMEMBER BERRYHILL: Yes. I was really interested in coming to this hearing and unfortunately all these hearings and stuff today have gone so long. I would just like to make the comment that, number one, it's not my intent, certainly, moving forward, to put raw milk folks out of business. I think that there's a market out there. I think that there's good that comes from it. What I was interested in, in this hearing, and I'm not going to be able to stay to listen to all the scientists, but I wanted to know the scientific part of what is safe and what isn't safe? Because as far as I'm concerned, I think that at the end of the day, whatever product it is, whether it's pasteurized or raw or whatever products coming into the public, that it's a safe product.

And today what I was looking forward to with our scientists is indications of coliform and what that might indicate as far as sanitation?

We've had, in some of the raw dairies this year in the testing, they've been all over the board, but when they had to make those standards which are current, they've been able to.

I will tell everybody here that raw milk has never been off the shelves and it is certainly not my intent to put raw milk off the shelves. But it is my intent to get this thing right and make sure that we keep everybody safe as this thing moves down the road.

So, Mr. Chairman, I'm sorry that I'm not going to be able to stay because it's the scientific part of this that really does have my interest. And I think all of us here want to make sure that this product is safe, as well as any product.

And I would like to make one other point, I know there has been a lot of stuff that's been going around about the Department of Agriculture and I want everybody here to know that I have utmost respect and confidence in the USDA and their inspectors out there. I don't think there's any black helicopters out there and people within that department, the inspectors, that want to put you out of business. I think

that everybody just wants to make sure that we have a good, safe product.

So, hopefully, at the end of the day, we can have that and you continue to enjoy a very nice product. Thank you.

SENATOR FLOREZ: Great. Thank you. Thank you, Assemblymember Berryhill.

Okay, well, is there anything else that you would like to add for the record before you leave? And then, we're going to turn to our scientists. This would be that opportunity to add to the record.

MR. SCHMIDT: I just want to say that I have about 200 families and 90 percent of these families are these groups usually the government describes as the group which is most endangered by raw milk. That is, pregnant women, small children, elderly and people with immune problems. Exactly those people come to me and get the milk, and they have significant increase in their health, and so, I think that's speaks for itself.

SENATOR FLOREZ: Okay. Yes.

MR. DICKMAN: You asked why do we care so much about this; why did we drive to Sacramento? I don't usually do things like this but it was a profound experience for me to drink raw milk after not having milk for 20 years. I've been told by people....and I avoided all milk products. It's changed my life. And I've gone through my life thinking my body was screwed up and I can't drink milk. I do recognize that I do digest milk differently than other people because other people can handle pasteurized milk. But I can handle raw milk perfectly well. And I remember that day drinking that glass of milk and eating that bowl of cereal with milk and just sitting there thinking, "Wow, I can't believe this. I wish I would have known this 20 years ago."

SENATOR FLOREZ: Okay. Well, let me just ask one last question (I can't resist) before you leave and that is, if, indeed the bill is

interpreted and signed by the Governor as to preclude our two dairies from producing this in California then what you are you going to do?

MS. REITZEK: Ow.

SENATOR FLOREZ: No, that's a serious question.

DR. JACOBSON: We will continue exactly as we're doing because we consider it our right to our health and we don't need big brother who already....(applause)

SENATOR FLOREZ: I get that, but I'm saying if there are no facilities in California to provide this to you?

MR. SCHMIDT: They will come to Canada then.

DR. JACOBSON: You'll find a significant grassroots movement.

MS. CHESSEN: I think there are cow share programs in California as well, aren't there? I think there are cow share programs where you can actually buy....no, I know people who do this. You can buy into a cow and pay some sort of a fee and you can go out to the farm and pick up the milk directly. That's a little less convenient.

SENATOR FLOREZ: Right. But let me give you a scenario: I think you mentioned it earlier about the black market and what happens in Canada, but I guess what I hear you saying is that you will find a way to get your raw milk and it probably will not have the standards that current raw milk is held up to.

MR. SCHMIDT: And that's the danger.

SENATOR FLOREZ: That's what I'm asking. But you still will consume.

GROUP: Yes.

SENATOR FLOREZ: Okay, great. Thank you all very much. We appreciate that.

GROUP: Thank you.

SENATOR FLOREZ: Okay, let's have our Panel-2 please. We have James Cullor, Associate Dean of Clinical Programs, Linda Harris, Michael Payne, and Dr. Jeff Farrar, and I do know that Monica is here for

Dr. Farrar, as well, Monica Wagner. And you can bring anyone else you would like up.

Let's go ahead and begin with statements. Mr. Payne.

MICHAEL PAYNE: Good afternoon, Mr. Chair, members of the Committee. I'm Dr. Michael Payne. I perform food safety research and outreach at the University of California at Davis. Davis is a Western Institute for Food Safety and Security. I hold doctorates in both veterinary medicine and comparative pathology.

SENATOR FLOREZ: And how long has UC Davis been designated as that, food safety and...

UNIDENTIFIED: Six years.

SENATOR FLOREZ: Six years. Okay. Thank you.

DR. PAYNE: By way of disclosure I should note that I was not involved in any way with either the development or the passage of AB 1735 which required the same hygienic standards of raw milk as those established for pasteurized milk. The opinions that I present today are from an academic standpoint and were not influenced by any of the regulatory stakeholders.

SENATOR FLOREZ: By that you mean that you weren't involved in the actual development, drafting...

DR. PAYNE: Development or passage of AB 1735.

SENATOR FLOREZ: Okay. Alright. Did you testify at the most recent Agriculture hearing, however?

DR. PAYNE: That's Assemblywoman Parra's? Yes, I did.

SENATOR FLOREZ: So that was after it's been passed?

DR. PAYNE: Yes, sir.

SENATOR FLOREZ: Okay. Great. Thank you.

DR. PAYNE: It's not just a turn of the century problem; but serious and even deadly disease outbreaks caused by raw milk products continue to this day. In the supplementary materials that I provided under Tab-3, you will find tables of outbreaks in both California and

nationally caused by the consumption of raw milk, raw milk cheese, and inadequately pasteurized milk. Even through legal, raw milk accounts for less than one-half of one percent of all fluid milk sales. Nationally it causes almost twice as many outbreaks as just pasteurized milk. And historically, almost 90 percent of raw milk associated outbreaks have occurred in states that permit legal raw milk sales.

One reason for this abysmal safety record is the virtual impossibility of ensuring that milk taken from cows in a farm environment is free of dangerous bacteria. Surveys of farm milk on dairies show up to a 32 percent contamination rate with pathogens such as salmonella or E-coli. Even well cared for healthy appearing cows may harbor pathogens as was evidenced by the 2006 and 2007 raw milk outbreaks in which E-coli, O157H7, and campylobacter were isolated from organically raised pastured cows or their environments.

As currently regulated in California, raw milk presents an immediate threat to the state's raw milk consuming public. The good news, however, is that there are steps that we can take which will both maintain the availability of retail raw milk while dramatically improving its safety.

In the packet we've provided we've included statistics from Washington and Maine, states which have increased sanitary standards for raw milk but still have the vibrant and robust milk industries. These and other precautions outlined in the packet form the basis upon which bold and decisive action by your good office and those of your colleagues could have the potential for making raw milk in California the safest in the country.

I'm sincerely grateful for the Committee's time, and of course, will make myself available to you and your staff to provide additional information and documentation.

SENATOR FLOREZ: Great. Thank you. Let me ask a question on a couple of items you mentioned. So I can understand it, you mentioned

that E-coli and listeria has been found in organically raised pasteurized cows, is that the testimony?

DR. PAYNE: Either cows or their environments.

SENATOR FLOREZ: And is that on certified raw milk?

DR. PAYNE: It was. You know that we had a recall for listeria in certified raw milk. That product may have been outsourced from a non-raw milk dairy. So one of the proposals that we've made has been to go ahead and have legislation that would make it a criminal event to go ahead and take, if you were short of product, to bring in certified raw milk from a non-certified raw milk dairy or a colos....which has happened.

SENATOR FLOREZ: You've got to go real slow for me on this. So you're telling me that there was an outbreak that you're mentioning and you're saying that it was due to the fact of mixture between a non-certified dairy and organic dairy and a certified organic dairy.

DR. PAYNE: What I'm saying is, is there had been at least two outbreaks in 2006 and 2007, one for E-coli and one for campylobacter. There was a recall for listeria. One of the arguments put forth by raw milk advocates was that those products couldn't have come from a certified raw milk dairy and in fact it must have been because they were outsourcing. Now, that said, E-coli 0157H7 has been found on the premises of organically raised pastured dairy cattle uncertified raw milk dairies and campylobacter has been isolated from the feces of numerous cows from organically raised...

SENATOR FLOREZ: Got it. Could you find the same type of campylobacter, as you mentioned, on a normal dairy?

DR. PAYNE: Absolutely.

SENATOR FLOREZ: Okay. So then what would be the point of pointing to this particular product as opposed to normal dairies that can have and do have the same types of items you've mentioned found in feces, for example?

DR. PAYNE: Well, obviously, the only thing that stands between raw milk consumers, and I'd like to see raw milk consumers continue to have the availability of raw milk, is sanitation. So sanitation for a raw milk dairy has to be absolutely exquisite.

SENATOR FLOREZ: And how do we measure, from your vantage point, the sanitation outcomes? So in other words, pathogens you've mentioned, are they tested in pasteurized milk today?

DR. PAYNE: There's relatively little regulatory testing for pathogens unless there's a problem.

SENATOR FLOREZ: Why would there be a different standard for raw milk then, unless there's a problem? So, in other words, no one's died from pasteurized milk in California, is that correct? People have died from pasteurized milk.

DR. PAYNE: I'm sorry, could you repeat that?

SENATOR FLOREZ: Has anyone died in California from raw milk?

DR. PAYNE: From certified raw milk?

SENATOR FLOREZ: Yes.

DR. PAYNE: Unequivocally, yes.

SENATOR FLOREZ: Really. How many have died? (sigh from audience)

DR. PAYNE: Are we going to be listening to this, sir?

SENATOR FLOREZ: You're going to listen to whatever the Chair would like you to listen to. Would you like to not listen to it?

DR. PAYNE: Alright, what was your question again, sir?

SENATOR FLOREZ: Thank you. If you focus on my questions and not so much the audience maybe we can get through this. My question is, is that in California have there been deaths due to certified raw milk?

DR. PAYNE: Yes, sir. And if you would like I can provide you with those citations.

SENATOR FLOREZ: Sure. Go ahead.

DR. PAYNE: In fact, I've made a list of those inside the back of the handout material.

SENATOR FLOREZ: Okay. Why don't you tell me what they are?

DR. PAYNE: Well, if you go to Tab-2...

SENATOR FLOREZ: Have you provided those to the Committee?

DR. PAYNE: Yes, I did.

SENATOR FLOREZ: Okay, go ahead and read them for the record.

DR. PAYNE: 1996, campylobacter, three persons developed blood infections after consuming the same brand of certified raw milk. I'll be happy to read through all of them if you like.

SENATOR FLOREZ: Well, how many do you have there?

DR. PAYNE: (counts) Eleven documented cases of certified raw milk.

SENATOR FLOREZ: And do we know where those particular raw milk products came from?

DR. PAYNE: Most of these were during the 1980s during the Altadena, because they had a particular strain of host adapted salmonella inside their cows, sort of like Typhoid Mary.

SENATOR FLOREZ: Is Altadena still in operation?

DR. PAYNE: Not anymore.

SENATOR FLOREZ: Has there been any certified deaths due to the two dairies that are now producing this in California?

DR. PAYNE: Not any deaths. We certainly have cases of renal failure that occurred as a result of....that have been linked strongly with genetic fingerprinting and with epidemiological evidence. In fact, I tried to go ahead and have, as part of the....I tried to have as part of the raw milk consumers, some mothers whose children had been damaged by raw milk consumption. I wasn't allowed to.

SENATOR FLOREZ: And are you talking about raw milk or the exposure to raw cheese in the statistics you've given us.

DR. PAYNE: Those are a mixture of raw milk and cholostrum and cheeses.

SENATOR FLOREZ: Okay. So let's separate this, your list. How many are due to raw milk minus the cheese, minus....what can you tell me on your list that is related specifically to raw milk versus cheese and cholostrum?

DR. PAYNE: Well, let's see. 1971 an outbreak involving 113 victims and 22 deaths. At least 44 cases were associated with consuming certified raw milk. The outbreak strain was isolated to the dairy.

SENATOR FLOREZ: What was the strain in 1971?

DR. PAYNE: That would have been salmonella, I'm sorry.

SENATOR FLOREZ: Salmonella?

DR. PAYNE: Yes, sir.

SENATOR FLOREZ: Okay.

DR. PAYNE: And this is all on page-3 under Tab-3.

SENATOR FLOREZ: I got you. So, as you look through the statistics for California....those are California?

DR. PAYNE: I have two lists, one just for California and then a listing of national outbreaks that are all under Tab-3.

SENATOR FLOREZ: But are you reading from a national outbreak perspective, those statistics, or are you reading from a California perspective?

DR. PAYNE: These that I'm reading to you are just California outbreaks.

SENATOR FLOREZ: Okay. And of the California outbreaks you're mentioning, you're also now separating out raw cheese, cholostrum, and raw milk?

DR. PAYNE: Well, as I look through it, let's see (reading through list.))] _____ one death associated with raw milk consumption.

SENATOR FLOREZ: And give me that one citation for a moment. What year was that and what was the strain?

DR. PAYNE: Well, one of them, one of several, 1980, 1991; salmonella; four illnesses and one death associated with raw milk consumption that were all treated by the same VA hospital in San Diego.

SENATOR FLOREZ: Okay, keep going. I'm sorry. Go on with your testimony. I just wanted to see...

DR. PAYNE: I've given you my testimony.

SENATOR FLOREZ: You're done?

DR. PAYNE: Yes, sir.

SENATOR FLOREZ: Okay, let me finish with a couple more questions. Is there, from your vantage point, by trying to equalize the test between raw milk and pasteurized milk, is there some sort of bias against raw milk in terms of the amount of testing necessary; additional testing; higher testing?

DR. PAYNE: Well, if I understand your question correctly, because there is no failsafe method of pasteurization, raw milk is, in order to go ahead and ensure the safety of raw milk consumers inside this room, you would need to go ahead and have an absolute, as good a level of hygiene and sanitation as you can attain on a dairy. And some of the other documents that I have provided show that in other states, including Washington State and Maine, you have a robust raw milk industry that utilized that ten coliform limit. Although the coliform limit is only one of a number of things, it probably ought to be done in order to go ahead and best protect raw milk consumers.

SENATOR FLOREZ: And what are some of the other things that could be utilized beyond the coliform?

DR. PAYNE: Not allowing a raw milk dairy to outsource from a non-raw milk dairy. Time temperature recordings of equipment sanitation, so a clean place. You have a milking machine. You run scalding water through it. You run sanitizer through it. One of the most

effective ways to go ahead and make sure that we have no sanitation problems is a time temperature recording chart that allows you to know that in fact you have achieved the sanitation level that you need to achieve.

Other things that we can do to help protect: Let's see. Require raw milk dairies to go ahead and develop a HACCP plan which has become a standard of the industry in processing, regulating cholostrum as a dairy product and not a nutritional supplement. Right now cholostrum is not regulated as a dairy product. And in the 2006 outbreak that affected six children and adults, one of those cholostrum samples had fecal coliforms, not total coliforms but fecal coliforms of 140 million bacteria per ml. That's obscene.

Some of the things that were suggested to me by families that had experienced renal failure and E-coli were increased point of sale for at-risk populations. The science absolutely, incontrovertible that immunocompromised young and elderly people are more susceptible to the pathogens which you would find inside raw milk. More visible warnings on product containers....

SENATOR FLOREZ: What are some of those pathogens that those populations are more susceptible to?

DR. PAYNE: The ones we always hear about are certainly E-coli, although in the grand scheme of things, campylobacter and salmonella nationally are more prevalent in terms of isolations inside raw milk.

SENATOR FLOREZ: And would you say that ____ part of the legislation in the past, but does the legislation give us any indication on pathogens or is it simply some other standard? I mean, does it give us any sort of thought processes on how to have testing for pathogens within this process or is it focused on something else?

DR. PAYNE: Well, the useful thing, and serious testing for pathogens wouldn't really be feasible for dairies because it would take

one to two weeks to go ahead and get back the results. The quick tests that are used...

SENATOR FLOREZ: Right. But the FDA just passed a real quick test on E-coli, for example. I mean, it gives us...

DR. PAYNE: But in terms for raw milk, and milk is a very, very difficult matrix to go ahead and get pathogens out of. I mean, it takes a lot. And some dairies that are proposing to go ahead and use quick test on their dairies, those tests have never been approved for use in milk; they haven't been analyzed for use of milk. They're approved for use in, like, orange juice. And so, the increased testing really would be problematic for them and would probably shut them down. Increased testing in terms of, like, you can only ship the milk after you've gone ahead and have a very, very academic serious examination. Testing would be a good thing to let us know whether or not we were doing what we intended to do with sanitation. But ultimately, checking the sanitation is what's going to protect raw milk consumers. And a small part of that, but a part of that, will be total folic coliform counts because that it is an indication of...

SENATOR FLOREZ: Got it. So, we don't really test for pathogens, then, in the end product; you're just looking for the sanitation portion of this?

DR. PAYNE: It's an indication of sanitation.

SENATOR FLOREZ: It's an indication but the safer test would be a test for pathogens, correct?

DR. PAYNE: It wouldn't be feasible. And I don't think raw milk dairies would be able to stay in business if we had to go ahead and wait.

SENATOR FLOREZ: How about regular dairies, would they be able to stay in business if we tested on pasteurized milk?

DR. PAYNE: Unpasteurized or pasteurized?

SENATOR FLOREZ: On pasteurized. You don't think there is any issue with pasteurized milk in terms of pathogens?

DR. PAYNE: I mean, if it's been pasteurized correctly. The outbreaks that we have inside pasteurized product (and there unquestionably have been some) are invariably the result of, number one, either of failure of pasteurization where companies didn't do what they were supposed to and FDA crawls up their butt with a microscope, or, it's a post-pasteurization event. Which once again, companies didn't do what they were supposed to go ahead and do. So, I don't think it's fair to blame pasteurization for....and certainly, those companies that are responsible for those events when that does happen. I mean, raw milk, unless you have absolutely exquisite sanitation, it's going to have a higher level of risk.

SENATOR FLOREZ: And I'm trying to understand from your vantage point why that is given that the outcome is....we're not testing for pathogens in either product because it's infeasible; it's too expensive; it would shut them down. I mean, I'm trying to understand why we wouldn't want an ultimate test for either product, both pasteurized or raw milk, that gives us a much clearer indication other than the sanitation as an indicator. I'm just trying to understand why sanitation as an indicator makes me feel any safer as the chair of Food-Borne Illness than the actual test of pathogens or a higher level of pathogen testing?

DR. PAYNE: If I think I understand your question, I mean, an ultimate test that can be performed on the dairy would be ideal. That doesn't exist. But I'll tell you what; Dr. Harris is an internationally recognized food safety microbiologist and I would defer to her for that question.

SENATOR FLOREZ: Okay. That's fair. Let's go ahead and do that. Let's go ahead and turn to the next witness. And thank you very much for your testimony. And let's see where we can go from there. Thank you.

Dr. Harris, thanks for joining us.

LINDA HARRIS: Thanks for having me. I'm an associate director at the Western Institute for Food Safety and Security but I'm also a specialist in cooperative extension in the Department of Food Science and Technology at UC Davis. And I've been studying or working in the area of food science and food microbiology for about 30 years now.

Since pasteurization of milk was implemented in the early part of the 20th century significant improvements have been made in the management of dairy herd health and in sanitary design of equipment and sanitation practices in milking and dairy processing facilities. Many of the illnesses of concern in the early 1900s are rare today. However, some of these illnesses have been replaced by other pathogens, many of which were not recognized as food-borne until the 1980s. For example, we didn't recognize E-coli 0157H7 until 1982, campylobacter in 1981, and listeria monocytogenes, 1982. And some of these more recently identified pathogens and organisms, such as salmonella, are all associated with the intestinal tract of healthy animals, including cattle.

E-coli 0157H7 is of particular concern, I believe, not only because of the severity of the illness it causes, especially in children and the elderly, but also because of the exceptionally low infectious dose which is estimated as exposure in a total serving as few as ten cells. And so, that eliminates the need for the microorganism to be able to multiply; it just needs to actually survive in very low numbers to the time of consumption.

Raw milk processors don't have a single critical control point, such as pasteurization which is designed to eliminate pathogens in the milk. Rather, a raw milk processor must rely on herd health management and rigorous sanitation procedures in milking and processing and then rapid and consistent cooling of the milk. The theory is that these procedures, when practiced correctly, should result in overall lower general microbial counts thus reducing but not eliminating the possibility that food borne pathogens are present. And because there is no sanitation methods that

can specifically target food borne pathogens, the focus is on reducing all microorganisms with the thought that then the probability that pathogens there would be lower.

I believe that all certified raw milk suppliers should be required to develop written standard sanitation operating procedures which should include written corrective action plans; and that these procedures should be monitored and recorded and those records should be accessible and part of any routine inspection on these dairies. In-house verification procedures, such as environmental monitoring, should also be established.

What I didn't have in my testimony, answers to your questions about testing for pathogens. But as a food microbiologist I believe in controlling the process will give you a much better assurance generally of the safety than random testing of small samples for specific pathogens. There's a long list of pathogens that might be present in raw milk and each one of those tests is expensive and so do you test for E-coli 0157H7 to only find that you have missed the salmonella that was there? Or, do you test for campylobacter and listeria, again, missing the E-coli? So, it becomes a choice of what you're going to test in the end product. And pathogens tend to be low level, sporadic in nature, and so, sampling becomes a real issue.

For me, when I make choices about food, I look at the process and want to know that the process is under control.

SENATOR FLOREZ: Okay. You don't eat spinach, then, right? Because our process in terms of trying to figure that out as a committee, has been quite challenging, to understand the process of HACCP and the advantages that brings or doesn't bring. And ultimately...

DR. HARRIS: Well, with the product like spinach that doesn't have a kill step, it is a challenge. And raw milk doesn't have a kill step either.

SENATOR FLOREZ: So you're saying with spinach there's no critical control point and with raw milk you would equate it equally?

DR. HARRIS: In other words, with spinach, I didn't want to talk about spinach today but, with spinach, we focus on things at the farm that might introduce pathogens, and so, we focus on risk reduction...

SENATOR FLOREZ: I got you. But that is your theory with raw milk as well, right?

DR. HARRIS: Yes, absolutely.

SENATOR FLOREZ: I mean, that's why I brought it up. In other words, your thought is you don't control, at the end of the day, for the end product, rather you control the process. And could this not be solved, then, by having our raw milk dairies simply come up with HACCP plans and call it a day? I mean, do we need to be as specific as ten coliform testing if they are practicing HACCP plans and, in essence, are controlling the process altogether? Or is the HACCP plan the critical measurement from your vantage point? And further that, one more step, the other tests that have been mentioned earlier by the witness before you, obviously, talked about other states having vibrant raw milk industries and is that test applied and executed in the same way that California is planning to apply and execute? I'm sorry, those are a lot of different questions and maybe you can just address them. And if you missed anything I'll remember it.

DR. HARRIS: I'll be amazed if you can remember all the questions. But, yes, you start with one...

SENATOR FLOREZ: Let's start with, maybe, the bigger question of whether or not HACCP itself precludes the need to have, if you will, a coliform type of test, ten coliforms, so I mean, tell me why that alone...

DR. HARRIS: Well, a HACCP plan includes monitoring record keeping and a verification step. And you're verifying that your system is working. One of the measurements of verification steps can be testing for things like coliforms. So from a regulatory standpoint, you might include

testing as part of a bigger inspection program. If there was mandatory HACCP and HACCP based inspection on raw milk theories, it might eliminate the need for a coliform test.

SENATOR FLOREZ: Yes, that's what I'm wondering. As we start to think about this, I mean, I'm going back to spinach and going to HACCP and wondering, at the end of the day, it's more of deregulated type of environment where the farms or others who are practicing the processes are looking at developing HACCP plans and are self-monitoring, am I correct, themselves, and there is some oversight but it's not necessarily people walking at the premise and saying "I'm testing right now for this particular item, coliform." Not in spinach, for example. But the difference with raw milk is that, and I'm sorry to equate them, but there is a non-kill step from your vantage point.

DR. HARRIS: Mm...hmm.

SENATOR FLOREZ: The only thing that can take the place of a non-kill step is, and I agree with you, is the process itself, meaning, a HACCP plan that ultimately is a good one; one that folks would enforce. It takes the likelihood, the risk, if you will, and makes them more manageable. And I'm just wondering, why, then, would a single coliform test somehow take the place of a good HACCP plan by our raw milk dairies, meaning, a very thorough, self-regulated, good for spinach, good for raw milk dairies? I mean, they get to in essence say, "We're practicing and being more thorough." You get to check, ultimately, whether these HACCP plans are being implemented. But is it necessarily a test or single test that might capture some indication but miss a whole bunch of other things that you've said in terms of the later down the line pathogen? I'm sorry to word it that way but it seems to me that....do you get where I'm going?

DR. HARRIS: I agree that I would be most comfortable with inspections that were based on a HACCP based inspection system. And during a HACCP based inspection you see records not only of what went

on today, but what went on at any day between the last inspection. And there should be evidence that when something goes wrong, in a good HACCP plan you have an immediate corrective action in order to correct that problem. And so, yes, I'm a believer in HACCP and in the system.

SENATOR FLOREZ: Okay. Let me take you a step further in the HACCP system, then. Are you of the belief that in HACCP that the actual producers are in control of those plans or is it some outside entity—public health, the state of California, CDFA? I mean, who ultimately, then, is performing, or the check on HACCP, or is this simply a check-in opportunity and audit opportunity for those folks to look at the entire operation under HACCP?

DR. HARRIS: I believe that a HACCP plan can only be successful if the people who are there every day understand, have developed, and are committed to it. I think it's important to have a verification that that's going on and that they understand correctly; be that by training, certification, inspection, evaluation of the validity of the choices that have been in the HACCP plan. But the ownership of those plans has to be the people who are executing the plan.

SENATOR FLOREZ: Okay. Got it. So in other words, it's a self-regulatory ownership issue for HACCP but yet able to be audited at any spot time in terms of the entire process, correct?

DR. HARRIS: Yes.

SENATOR FLOREZ: Let me ask you the big question now. Is that a better way to deal with raw milk (think of your best HACCP plan and the way it can be implemented) then a single ten coliform test on its own by itself, as the test that gives us whether or not these folks are doing the right thing; which is a better system?

DR. HARRIS: If you had the two side by side, testing for coliforms once a month, and inspection to a HACCP plan that was monitored, records were kept, was verified, I would go with the HACCP plan.

SENATOR FLOREZ: You would go with the HACCP. Okay. So there are ways to replace, improve, maybe our current bill as signed by the Governor, if indeed we can get our raw milk dairy owners to practice HACCP, and I'm not sure that they don't, and I'm not sure that....is there a state in the nation that has a mandatory HACCP plan for raw milk producers?

DR. HARRIS: Not that I'm aware of.

SENATOR FLOREZ: So we would even be stronger if we could work that out. Is there an opportunity for....has CDFA ever sat down with our raw milk producers and said, "How could we work out, maybe, a strong HACCP plan, working with the scientists, working with the folks that give us the bubble, if you will....I'm just asking, have you heard of that type of discussion to date?"

DR. HARRIS: No.

SENATOR FLOREZ: Okay. Great. Let me ask just a few more questions following up on that. Let's just go back to the ten coliform test. In the other states, as been mentioned, where we have vibrant raw milk producers, is that the test; is it a good standard; and what do you think about that? Is that where we got the standard from?

DR. HARRIS: I think it's a reasonable standard. As I mentioned before, the goal of the process that you're applying in a raw milk dairy is sanitation—you're trying to reduce all microorganisms.

Coliforms are selected. They're a subgroup that encompass several genes of bacteria that are often found in the intestinal tract and in the dairy environment. And so, their presences seem to indicate the potential for lack of sanitation and, therefore, the potential for the greater probability of the presence of pathogens. Just because you have coliforms doesn't mean you have pathogens. And when you have pathogens, it doesn't necessarily mean you have coliforms present.

SENATOR FLOREZ: So there is not a correlation there that one could point to with any consistency, is that correct?

DR. HARRIS: The correlation is with sanitation and, therefore, the idea is that...

SENATOR FLOREZ: I got you. But a HACCP plan actually is probably the best way to deal with sanitation, correct? A total HACCP plan.

DR. HARRIS: Actually, sanitation is the foundation before you even apply a HACCP plan.

SENATOR FLOREZ: But coliform testing is just a...

DR. HARRIS: It's a verification that your sanitation program is working.

SENATOR FLOREZ: Got it. But a HACCP plan controls the environment for sanitation.

DR. HARRIS: A HACCP plan controls your process.

SENATOR FLOREZ: Which is the control mechanism; it's one of the larger...

DR. HARRIS: And one of the things that you would do in a HACCP plan is to control your sanitation program.

SENATOR FLOREZ: I got you. And then, in essence, given that there is no...you mentioned in your testimony the difference between pasteurized milk and raw milk was, you called it "critical control point." The critical control point from your vantage point is the pasteurization process. Is that the kill step in your mind? Are you absolutely certain that that is the ultimate protector of even our pasteurized milk or would a HACCP plan for these larger dairies be a better indicator for, in essence, getting to a better product other than pasteurization?

DR. HARRIS: Many of the larger dairies already have HACCP plans in place and have been operating under HACCP. Pasteurization...

SENATOR FLOREZ: So you're telling me that picture behind you is an indication of a good HACCP plan? Seriously, I'm asking in all seriousness.

DR. HARRIS: A HACCP plan is applied typically in a processing facility.

SENATOR FLOREZ: Okay. But I mean on a dairy, right? I mean, we're talking about a total chain. You're telling me that just for processing plants. But for dairies, HACCP plans are non-existent, is that correct?

DR. HARRIS: Where the animals are raised...

SENATOR FLOREZ: Yes, I see a HACCP plan as, you know, a complete surrounding of the production. And so, I'm just trying to understand when you say that HACCP plans are a positive, and I'm turning now to pasteurized milk for a moment, and I'm wondering whether or not HACCP really applies to pasteurized milk? We've been really focusing in on raw milk and what kind of environment might control for, as you said, the sanitation aspects that produce all of the bad things. For pasteurized milk, I'm trying to see what the comparison is for their types of HACCP plans, for their types of...other than the kill step, which is pasteurization, I think.

DR. HARRIS: Well, they have the same sanitation concerns; same sanitation issues; same sanitation programs. So they would be doing exactly what a raw milk dairy would do but adding pasteurization.

SENATOR FLOREZ: Got you. Okay. Just a couple of more questions. Have you visited a raw milk dairy?

DR. HARRIS: I haven't had an opportunity.

SENATOR FLOREZ: Okay. And in terms of the ability to look at a raw milk dairy, would you venture to say that that would be something that would be of value in terms of the research and the types of input you might have into this debate?

DR. HARRIS: Of course.

SENATOR FLOREZ: Would you like to visit one? I'd gladly, I think, go with you, because I'd be interested in trying to understand a bit more about the HACCP process and what isn't on a raw dairy. And that's

the reason I ask, is that, if we can, indeed, control the environment with a HACCP plan, a very tightly controlled HACCP plan, and I think your theory is, of course, is trying to, and I think I asked you what would be better, a ten coliform test or a very good, strong, self-monitored and verified HACCP plan and I think you just testified that the HACCP plan would be better. In order to get to that judgment I would say that you would visit a raw milk dairy to see if, indeed, it is following, in many cases exceeding, what HACCP could offer in terms of cows. Because I just look at cows wading in feces and I can tell you that I don't know what HACCP plan that would pass, period. I mean, I really mean that from a perspective of just the environment of pathogens and other types of items. And then I see an organic, grass fed dairy and I wonder whether or not from a pathogen point of view, from a HACCP point of view, what might be a better model for HACCPs in general for all dairy cows whether they be organic or not. And I think that's the distinction I'm trying to make.

And I'm trying to think about it because we're struggling here in the Legislature with trying to find out, at least in the Senate, I don't know what the Assembly does, but in the Senate, we're very concerned with the science and trying to understand a larger test, a bigger swath, if you will, to, in essence, actually hold our raw milk dairies to stronger standards. I'm not sure the one test is the best standard that we just passed. It might be a total HACCP plan, given more control and more verification in the process.

So I would really offer that. Maybe we can some time go down with your folks and point to me, that's bad HACCP/that's good HACCP, that's good HACCP/that's bad HACCP. I can tell you if somebody has a lot of mega dairies in my district and having visited organic pastures, I can, from my own layman's point of view, I can tell you what would be more likely to pass HACCP right off the bat just by walking and looking and looking at the process. And I'd like you to tell me what wouldn't pass

HACCP. I think that would be very valuable for me. So I would appreciate that.

Any more comments in terms of your testimony?

DR. HARRIS: No. I have some written comments that I'll pass over.

SENATOR FLOREZ: Great. Thank you very much for your testimony.

Okay, who's next?

JAMES CULLOR: Good evening. My name is Jim Cullor. I'm an Associate Dean of Clinical Programs at the University of California, Davis and I manage the teaching research facility in Tulare. So I'm near your area.

And like you, I grew up in agriculture, only in Kansas; a small farming community (200 people), so I understand agriculture and I enjoy it. And I enjoy the Central Valley.

When I talk about the perspective I'd like to bring, and it was mentioned in the first panel, as well as maybe others in the room, there's a European perspective on the sale of raw milk. The European Union does allow the sale of raw milk. However, each individual country is put together so it can control the sale and put in different values, different perspectives that they may have. And so, I have a perspective of...I'll bring the perspective of Italy, Spain, Germany and the UK.

Italy and Spain, most have dairy sheds most like our Central Valley and other parts of California. And in those countries and within the districts, the sale of raw milk is allowed and is marketed. And I've been on raw milk dairies in Italy and in China and a couple of other places. And the standards that they put there is that they understand some inherent dangers that raw milk can present under certain circumstances. And so, those governments put in place a much stricter monitoring procedure than what we're talking about here in some cases. And that is the somatic cell count has to be less than 400,000. The total

bacteria count has to be less than 100,000. If they're a raw milk dairy, they need to have a veterinarian, a herd veterinarian that works with them closely. The local district government tests that dairy five times a month for the coliform count, which is 100 CFU per ml. They also test for salmonella. They have a zero tolerance for the presence of salmonella in that milk. And then, they'll test for other pathogens as needed in the milk.

And so, they allow the sale. They have cooling standards. They have even standards, for instance, a sign on the farm must be posted to the effect "raw milk, boil before consumption."

And so, many countries around the world, like in China, Mongolia, I've been with those dairy industries. The people live with their animals. They care for their animals. The milk is precious. And they take it and consume it, but they boil it first, and then they do their various products. So that level of safety is put in place.

And so, as we look at the idea the coliform limit, that sort of thing, I think it's reasonable to look at that and set it at, I don't mind a ten CFU coliform limit because I work with dairies and I know that plans, we don't call them HACCP plans, we call it break through management. We can talk more about that later if you'd like.

SENATOR FLOREZ: Sure.

MR. CULLOR: But, that ten CFU limit, which is a clear indication of sanitation, can be put in place and can be met. And just like the first panel talked about, responsible producers, whether it's a raw milk dairy or whether it's another type of dairy, it takes a responsible business person to work with the animals, to manage the dairy on a daily basis for animal health and well being, public health, food safety, food defense, ecosystem health, and still make money. That's quite a challenge. But there are producers on the raw milk side and on the regular side that can do that and it's a management system that includes a lot of things like HACCP.

And so, I'm here to talk...

SENATOR FLOREZ: Can I ask you a couple of questions or do you want to keep going?

MR. CULLOR: Sure.

SENATOR FLOREZ: Do you have more?

MR. CULLOR: Questions would be fine.

SENATOR FLOREZ: Okay. So you've been on raw milk dairies in Europe and China. How about California?

MR. CULLOR: I have not been in California.

SENATOR FLOREZ: Okay. So how would you make a distinction between what a raw milk dairy in Europe is doing as compared to a California raw milk dairy if you haven't physically been on one? Veterinarians, people who pay attention, people that live there, people that are there every single day, I mean, those are all indicators you've mentioned, I didn't mention them, you mentioned them as positive to, if you will, making sure that the dairy is producing the right types of safe milk. You've also mentioned the ten coliform, you can live with it, but let me ask you a question in terms of Europe and in China. Where do they test for those ten coliforms in those particular countries? I mean, where, ultimately, does the test take place?

MR. CULLOR: The test is on the farm, on the bulk tank milk.

SENATOR FLOREZ: Bulk tank milk.

MR. CULLOR: Five times per month. These are random testing. And they also test for salmonella with a zero tolerance for that.

SENATOR FLOREZ: Okay.

MR. CULLOR: And then depending on the local region or the country, they may test for other pathogens as well. But, the idea that the raw milk dairies, for instance, in Italy that I've been on, the climate there is very similar to the climate in the Central Valley, and so, they have both pasture part of the time during the year and confinement other parts of the year. And so, the processes that they put in place, this oversight plus

management style, is effective in being able to produce the safe and wholesome product that the consumer wants. I have no doubt those same things can be done in Fresno or Tulare or anywhere else in the state of California. It's a mindset to do it.

SENATOR FLOREZ: I got you. I'm just wondering out loud, as we were having the conversation, about HACCP, and I think you've mentioned that, whether or not the ten coliform standard is even, and I understand as an indicator, but I'm not sure what it's giving us. I mean, at the end of the day, we're not really testing for pathogens so it doesn't make me feel, as the chair of the Food-Borne Illness Committee, that we're not testing at the end product, if you will, you're testing at the bulk tank. You mentioned in Italy and other places a 100 standard. And, for example, in Connecticut, it uses 50, and I'm not sure they don't have a very good safety record. I mean, it seems that they have a pretty good safety record. California uses ten. So I'm kind of wondering what's the variation of this, you know, 100 in European countries, 50 in Connecticut, ten arguable in California; is that even the right indicator or would you agree that maybe a stronger HACCP plan that is premised on self-regulatory sanitation practices on the dairy is a better indicator for overall....I think the best indicator is pathogen testing, but I've been told that that is infeasible; it can't be done; it would shut the industry down; too long; too slow; too expensive. In the state Senate we frequently hear those arguments all the time, but I think our end product is simply safety. So I think that what's good for raw milk dairies in terms of pathogen testing should be good for pasteurized dairies in terms of pathogen testing, but that probably isn't going to occur. So then I go to HACCP plans that try to give us better indications than just a single test—coliform. Would you agree that...is the coliform test the only indicator? Should HACCP be the better standard? Good HACCP, not industry lettuce HACCP, regulated by the industry or monitored by the

industry, reported by the industry; I'm talking about something that could be verified.

MR. CULLOR: The HACCP, or what we did was we took HACCP principles and turned it into what we call breakthrough management. And in that what we did is we broke the dairy up into modules. The milking part or the calf raising, the reproduction, all those different modules and then we put together teams. They had the producer, the herdsman, the staff responsible for that module, and an outside consultant and what we did then, is we prepared a mission statement; then we prepared a standard operating procedure; then we prepared a training program; a monitoring program; and a verification program. And so, that system, I think, would work great. And I know it works great because I've seen it work some big Indiana dairies and consistently, day-in-and-day-out. That combination of that type of management plus testing to help verify whether the process in place is working, that combination, and then verify by an outside third party would work great. It's feasible. It's doable if everybody involved is ready to go and wants to do it.

And so, the coliform count, you have a HACCP plan for the milking part of it. And then the coliform count is an indicator whether or not that plan is being looked at and done day-in-and-day-out. You can go in and watch the people do their job and then you can use this test to verify with what you're seeing; if when you turn your back they go to do something else. And that combination of things you can look at it and you can go, "Oh, wait a minute, we're out of spec. We went from ten to 1,000. Something is wrong."

SENATOR FLOREZ: Okay, how about 50 to 100? At some point, why is ten the magic number here? I'm trying to understand why ten, given all....I mean, if you're a raw milk dairy and you have gone the extra mile, no other raw milk dairy, no other dairy, and I don't mean to disparage that dairies are doing this, but, I guess I live near mega

dairies, I'm sorry, where I just don't see them as HACCP friendly. Whatever process you may lay out, I just don't see that as being somewhat the environment that would get us to a very, very controlled type of environment that's gets us less coliform at the end of the day. I'm just wondering why you believe that the bulk tank that is the ultimate test. If you are doing all of those things that you just mentioned it seems that that's just the natural byproduct, is to have those types of coliforms.

MR. CULLOR: As I recall, the first part of your question of why ten?

SENATOR FLOREZ: Why the ten, yes.

MR. CULLOR: What my perspective is, is that that was the lower limit of detection of the _____ studies at the time that were available. You couldn't say zero because you couldn't test for zero. The tests, mathematically, weren't there. And tests could be developed to get closer to that if you'd like, and we can talk about that in another committee. So, the ten, for instance, in pasteurized milk, after pasteurization the ten coliform limit is in place.

SENATOR FLOREZ: Okay, but that's after pasteurization.

MR. CULLOR: After pasteurization. So, now....

SENATOR FLOREZ: Are you shocked about that? I'm not. After pasteurization, which is the kill step, somewhat the kill step, gives you a much lesser count where the product is completely different. It has no kill step, as you've been mentioning, why in the world would we have an equivalent standard to measure raw milk as opposed to pasteurized?

MR. CULLOR: My perspective is, is that...

SENATOR FLOREZ: It's a different product. I don't understand that.

MR. CULLOR: We know that with the pasteurization, properly pasteurized milk, handled as it should be, we know that that ten, and I think we've established that that's the lower limit of detection of the _____

studies, we know that that ten, for decades, has given a product without food-borne illness, like we're talking about.

Now, and we also know that both raw milk producer and non-raw milk producer through management procedures and dedication can meet that standard. And, since we already know that that's been proven to be safe over a long period of time, then we're helping the consumer, giving them that added comfort level of safety for their children and for themselves.

And we change. We're not the same as we were 40 or 50 years ago in terms of the way we live—our lifestyles and that sort of thing. And like I say, I come from a small community and I understand that and I long for that at times and that's why I like the Central Valley better than making the trip to Sacramento is because of that lifestyle.

And so, I think it's an achievable goal. I think that the HACCP or the Breakthrough Management Program that you've mentioned, which is a process management, what that is, is it's a proactive listening; it's a process management; it's a verification program that both sides of the dairy industry could do if they wanted to and if there was an incentive to do it. It's going to cost extra time. It's going to take extra dollars input. But, the outcome on quality, the outcome on safety, I believe to be very well worth it on both sides of the ledger.

SENATOR FLOREZ: Okay. Great. Thank you.

MONICA WAGNER: Hello. Monica Wagner with the Department of Public Health. I have with me today, Drew Johnson for the Center for Infectious Disease, and Goldie Ing, also from the Department. We've provided the Committee with written testimony that we'd just like to briefly summarize if it's okay with you.

CDPH authority in this are rests with two programs; the Food and Drug Branch, and the Infectious Disease branch. Food and Drug Branch, Senators, you're familiar is responsible for licensing and inspecting food and drug manufacturers and also for protecting the public from unsafe

or misbranded foods. So the Food and Drug Branch would be responsible for those government affixed labels, warning labels. The Food and Drug Branch also investigates food-borne illness in California, including working collaboratively with the Infectious Disease Branch and CDFA.

The Center for Infectious Disease conducts investigations to prevent and control communicable diseases.

I'd like to turn it over to Drew Johnson now, to talk about his branch.

DREW JOHNSON: Good evening, Senator Florez, Committee Members. I'm Drew Johnson, the Assistant Deputy Director for the Center for Infectious Diseases with the California Department of Public Health.

CDPH's Infectious Disease Branch, or IDB, conducts investigation, surveillance, prevention and control of general communicable diseases of public health importance that are not covered by specific programs housed within various other branches. IDB provides consultation assistance to local health jurisdictions in the control and prevention of communicable diseases and outbreaks; provides collection, coordination and tabulation of data, surveillance data, of over 60 infectious diseases and provides investigations of local, regional, statewide or multi-state outbreaks; and finally, provides recommendations, guidelines, policies and regulations on communicable disease prevention and control.

The Department has authority under the Health and Safety Code to investigate communicable diseases. This includes the responsibility to examine the causes of these diseases in humans and domestic animals. When CDPH is informed by a local health officer of an occurrence of a communicable disease, the Department is authorized to take the measures needed to determine the nature of the disease and prevent its spread. CDPH also has the authority to quarantine, isolate, inspect, and disinfect persons, animals, houses and other property whenever CDPH judges that these actions are necessary to protect or preserve the public

health. CDPH is also authorized to test specimens and investigations such as those related to raw milk.

Investigation of an outbreak, which is defined in regulations, may be triggered by a variety of factors, including the type of disease suspected or confirmed, the number of suspected cases compared to the average amount we would otherwise expect to have reported within a given timeframe, the setting of the outbreak (such as a wedding party, a jail or at a restaurant), the demographics of the ill persons and the geographic location or possible relationship between the cases.

The Communicable Diseases Control Division and the local health jurisdictions conduct ongoing disease surveillance to understand the disease epidemiology in the community, identify cases and outbreaks, investigate contacts of those who may have been exposed, and provide them with preventive treatment or control measures and implement disease control and prevention measures.

The local health jurisdiction has the primary responsibility to respond to and investigate suspected disease outbreaks and notify the Division of Communicable Disease of such situations. The LHJs may request guidance or epidemiologic support from the Infectious Disease Branch to manage and investigate outbreaks.

The Division of communicable Disease provides technical expertise on communicable diseases, guidance on outbreak investigation, laboratory support, and occasionally field epidemiologic support.

During any outbreak investigation there is constant communication between the local health jurisdiction and the Infectious Disease Branch. All outbreak and epidemiologic investigations as well as special epidemiologic studies led by IDB are routinely summarized into reports and shared with all involved collaborators and affected LHJs.

The surveillance systems that are used include, required reporting of specified diseases by health care providers and laboratories to the local health jurisdiction, review of communicable disease data reports

from LHJs to the Division of Communicable Disease Control, laboratory surveillance at both local and state public health labs, reports from the public of illnesses of suspected outbreaks, such as food-borne illness complaints to the local Environmental Health Department, reports of the disease clusters or unusual patterns from hospitals or long-term care facilities and other monitoring systems.

This concludes my remarks at this time.

SENATOR FLOREZ: Great. Thank you. Okay, are there questions from anyone? Thank you all. I appreciate your comments.

Let's go ahead and hear from the other panel, if we could.

Ted Beals, M.D., pathologist; Sally Fallon, President, Weston A. Price Foundation; Ron Hull, Ph.D. Microbiology from Australia; and Robert Irons, Ph.D. Microbiology. And let's also add Dr. Vonderplanitz, Ph.D., Nutrition. Thank you for being here.

Okay, let's go ahead, if we could, and start with Mr. Beals, I assume. Or, how would you like to proceed? Okay, Sally Fallon, thank you for joining us.

SALLY FALLON: Thank you so much, Senator Florez, for the opportunity to address you today. My name is Sally Fallon. I am testifying in my capacity as president of the Weston A. Price Foundation, a nonprofit nutrition education foundation. As the founder of a campaign for real milk, which advocates the consumption of unpasteurized whole milk from pasture fed cows, and as secretary of the Farm to Consumer Legal Defense Fund which provides legal defense of farms engaged in raw milk production and direct farm to consumer sales. Most importantly, and I am so thrilled with the emphasis on mothers, because I am testifying here today in my capacity as a mother, and it is as a mother that I will start with three testimonials typical of those we receive almost everyday.

One comes from a physician who prescribes raw milk to his patients often with remarkable beneficial effects. One dramatic case

involved a nine-month old boy who had had three ear infections in three months. The child had been fed a number of formulas based on processed cow's milk and soy protein and the mother had even tried pasteurized goat milk. With each formula, the child suffered recurrent vomiting, diarrhea, failure to gain weight and thrive and he had been ill with either viral or bacterial infections almost continuously since early infancy. After the mother switched to a formula based on raw goat milk, however, the diarrhea and vomiting ceased and the child began to gain weight. One year later, he has normal growth and is perfectly healthy.

The second example comes from a Weston A. Price local chapter leader who reported on a two-year-old boy with very serious asthma. After the mother put the boy on raw cow's milk the child went through the entire winter without a visit to the doctor for any reason and no asthma attacks except for one, a serious attack which occurred after the boy consumed pasteurized milk while on a family trip.

The third involves an autistic eight-year-old boy who had not spoken a word since the sudden onset of autism at the age of two. After two months on raw cow's milk, all autistic behavior disappeared and the child began to babble as a prelude to speech. The only dietary or treatment change was the switch from pasteurized to raw milk.

Now, please imagine the joy and relief that raw milk has given to the families of these children; an end to suffering; an end to worry. Family life can be normal and happy again.

It is testimonials like these that make us so passionate about having access to raw milk, and so concerned about the manner in which access to raw milk has been undermined in the state of California with the stealth passage of AB 1735, a law that mandates standards so strict that commercial production of raw milk would become impossible.

Our experts here today will testify to the fact that the ten coliform limit is not only unnecessary for the safety of raw milk, but would actually make raw milk vulnerable to pathogens. Make no mistake; those

who work behind the scenes for the passage of this law do not want the sickly asthmatic and autistic child to have access to nature's perfect healing food.

Now, I was very interested that the panel before us did say that people should be able to drink raw milk. But when you read the testimony of the people in the FDA and even earlier testimony from some of these same witnesses you hear today, they have been adamant in saying that absolutely no one should drink raw milk; not the asthmatic child, the autistic child, the child with frequent infections. They do not want these suffering children to have this food.

The ten coliform standard is a test of sterility designed not to ensure the cleanliness of a farm but to verify the effectiveness of a processing facility. The pasteurized milk ordinance actually allows 100,000 coliforms in raw milk from the dairy farm. The ten coliform standard was not designed to test the cleanliness of a farm, but the effectiveness of the sterilization process at the milk processing plant.

It is inappropriate to use this test of sterility on raw milk, which is not a sterile product but a probiotic product. Non-pathogenic coliforms are what consumers are seeking when they choose a raw milk product. Coliforms protect us against pathogens and produce many important nutrients in the digestive tract. They are our friends, not our enemies and they are being increasingly used by doctors to treat everything from intestinal problems to wounds. I even read an article the other day about someone whose chronic diarrhea was only solved or cured by injecting fecal matter into her guts because these coliforms are beneficial.

Obviously, it is unscientific to claim, as our opponents do, that these same coliforms in milk are dangerous. The medical paradigm has changed and germs are no longer the enemy.

You have, of course, heard many arguments painting raw milk as a deadly poison, one that has not health benefits. These arguments can only be made on the basis of extreme bias against raw milk found in

numerous articles published in the scientific literature and on government websites.

The committee needs to be aware of the double standard applied to raw milk compared to other foods. The most glaring example of this double standard can be found in the FDA PowerPoint presentation on raw milk prepared by Mr. John Sheehan of the FDA.

The Weston A. Price Foundation has presented to this committee a slide by slide response to this FDA document. In it, Mr. Sheehan cites 15 studies to support his statement that drinking raw milk is like playing Russian roulette with your health. In analyzing these studies we find found that not one of them proved that pasteurization would have prevented the outbreak. In almost half the studies, Mr. Sheehan misrepresents the conclusions in the study, and in fully 80 percent of the studies there was no valid, positive milk sample to implicate raw milk. One-third of the studies ignore other more probable vectors of disease in what constitutes clear examples of bias. In one of the studies, the outbreak blamed on raw milk did not even exist. The public deserves better from our public servants.

Lately, we have seen many reports in the media about outbreaks attributed to raw milk. On inspection, we find a clear pattern of bias, double standard and possibly even fraud regarding these reports. The modus operandi to build a case against raw milk is as follows: One thing they do is when testing raw milk to use cultures to promote pathogen multiplication and very highly sensitive milk testing techniques that find pathogens in extremely small numbers, levels that would not cause illness. And I need to stress that any substance you test will show pathogens if the test is sensitive enough, because these pathogens are everywhere. And we now have the technology with these very sensitive tests and they're being used to make a case against raw milk.

Another is new rapid testing techniques developed for the food industry which err on the side of finding false positives. This method is

currently being used in Pennsylvania to harass raw milk dairies. The Pennsylvania Department of Agriculture then issues an inflammatory press release which is not retracted when the dairy's own appropriately carried out test come back negative.

And I really want to stress in your proposed legislation that you make sure that the testing procedures that you mandate are appropriate and are not giving you a lot of false positives.

Another technique: When there is an outbreak used food questionnaires that leave out likely vectors of disease but always include raw milk. To give you an example, in Pennsylvania a person got sick and reported receiving a call from the Health Department. The Health Department wanted to know whether she had drunk raw milk. She replied that she hadn't but she suspected undercooked chicken from a local restaurant. Suddenly the Health Department wasn't interested in her case anymore. Not interested in tracking down the chicken. They only wanted to know if she had drunk raw milk.

Another technique: When there is an outbreak, test raw milk products first and test them in the home setting rather than from the shelf. If a person is infected and has handled a raw milk product, the product will test positive for the organism. Then you omit testing other foods or raw milk products on the shelf but report a positive lab result for the raw milk product. This is the method that has been used to implicate Mexican style raw milk cheese in numerous reports.

Another method: Omit subjects who got sick but did not drink raw milk. In a 2001 Wisconsin outbreak cited on the CDC website, there's a good example of this. People who got sick but did not drink raw milk went to the hospital; were asked whether they drank raw milk; when they said no, they were sent home. Those who said yes were admitted to the hospital and became part of the official record.

Another method: Ignore equally likely or more likely sources of infections such as visit to a farm or petting zoo, tap water or other foods.

Then when you've done all these things and kind of hand picked your data by leaving out people who didn't drink raw milk, you then can get a statistical association with raw milk. And then what they do, is assume that that statistical association constitutes proof. It is very easy to create a statistical association of disease with raw milk using these techniques. And the vast majority of reports cited by the FDA and by Dr. Payne, use these techniques. Then, we've seen this in the east coast and also in California, they issue inflammatory press releases accusing raw milk of causing disease and these are not retracted but left on government websites when the dairy is exonerated.

Thus, the industry and government agencies have used these techniques to make raw milk the whipping boy for outbreaks caused by other foods. It is clear that in recent months, government agencies are making a well coordinated effort to blame some of their most serious problem, such as listeria and E-coli 0157H7 on raw milk. The fact that only raw milk was officially quarantined during the 2006 spinach outbreak is an excellent example of these biased tactics. And I think you can understand from this why we are suspicious and untrusting of government officials and the reasons they give for going after raw milk.

Meanwhile, problems with pasteurized milk tend to be glossed over or underreported. Recently, three people died from listeria and pasteurized milk in Massachusetts. None of our former panels mentioned this today.

On February 24, 2006, Wal-Mart in Vidalia, Georgia pulled pasteurized milk from shelves due to a foul odor. At least one child was seriously sick. We only knew that from a personal report. It was not reported in the media. A voluntary recall was announced three days later. There was no sense of urgency. In fact, Wal-Mart was applauded by the commissioner. There were no government recalls, no warnings to the public to avoid drinking pasteurized milk. More of the double standard.

In 2006, pasteurized milk caused illness in 1,300 inmates in

11 California state prisons but did we hear an outcry to remove dangerous pasteurized milk from the general market? No we did not.

Another example of the double standard comes from the Center for Disease Control website which warns against raw milk as a source of salmonella. Yet, a few points later the same documents states that unpasteurized milk in the form of breast milk is the safest food for infants and that raw breast milk prevents many health problems, including infection by salmonella. Everything that we have learned about the health benefits, immune support, probiotic qualities and antipathogenic components of raw milk over the last 40 years applies equally to the raw milk of other species. Studies showing that babies given pasteurized breast milk have more infections, more health problems, and do not grow as well compared to those given raw breast milk apply equally to the milk of other species.

The FDA calls drinking raw milk risky behavior. A 1999 FDA survey involving almost 20,000 adults in eight states found that 50 percent consumed uncooked eggs, 20 percent consumed pink hamburgers, 8 percent consumed raw oysters, while a mere one percent consumed raw milk.

A 2008 study of almost 5,000 young college students reported that 53 percent consumed raw cookie dough; 33 percent consumed eggs with runny yolks; 29 percent consumed raw sprouts; 11 percent consumed raw oysters, clams or muscles; and 7 percent consumed rare hamburger. The study did not report consumption of raw milk. Yet, none of these common risky behaviors has prominence on the FDA's website for food safety. Only raw milk is singled out. And there are no pasteurization requirements for these risky behavior foods. You can still purchase raw cookie dough.

Government officials also insist that raw milk provides no health benefits compared to pasteurized and ultrapasteurized milk. And I do want to point out that most of the milk today is ultrapasteurized. And

this is a process that takes the milk above the boiling point, which you actually cannot do unless you have very special equipment. It's a very unnatural process.

The evidence for the superior health benefits of raw milk comes in the form of scientific studies published in peer review journals and it corroborates the hundreds of testimonials that we have received on the benefits of raw milk from young and old, some of which you will hear today.

Opponents of raw milk have been uniformly condescending towards individual testimonies, dismissing them as anecdotal. Yet, for the individuals and families involved, these testimonials are pure science, objective conclusions drawn from before and after observations of conditions incumbent on a single variable—the addition of raw milk to the diet.

The second document that we have presented to the committee is a PowerPoint presentation prepared by the Weston A. Price Foundation which addresses the safety, health benefits, and the economic considerations of raw milk. The document is fully referenced and contains all the scientific studies we know about. In it we provide the math for that \$64,000 question—what is the safety record of raw milk versus pasteurized milk and versus other foods on a per serving basis?

In a recent document published by the Centers for Disease Control the agency estimates that on a per serving basis one is ten times more likely to become ill from listeria by eating deli meats than from consuming raw milk. And this estimate is based on the exaggerated and biased reports that I've talked about which blame raw milk but do not prove that it actually caused an illness.

Here we have yet another example of the double standard applied to raw milk. Where is the FDA's charges that deli meats are inherently dangerous and should not be consumed? Where is the FDA's exhortation to everyone charged with protecting the public health, to

prevent the sale of deli meats to consumers which are obviously inherently dangerous?

By our calculations, pasteurized milk is 1.1 to 15.3 times more dangerous than raw milk on a per serving basis. Even using government statistics that inflate the danger of raw milk, it is easy to calculate that one is over 2,000 times more likely on a per serving basis to contract illness from other foods than from raw milk. In fact, the only way to reduce the risk of food-borne illness to zero is to stop eating and die of starvation. Or, to consume raw milk on a regular basis to ensure immunity to pathogens.

Our PowerPoint presentation details the health benefits of raw milk in studies going back over 80 years. Raw milk is superior to pasteurized milk in building strong bones, preventing tooth decay, supporting normal growth and development, preventing asthma and allergies and providing protection against infectious and chronic disease.

The latest study comes from Europe where investigators found in a study of almost 15,000 children, that consumption of raw milk was the strongest factor for reducing the risk of asthma and allergy whether the children lived on a farm or not. The benefits were greatest when consumption of raw milk began during the first year of life. About five million children in this country are afflicted with asthma and there are 5,500 deaths from asthma every year. About 1,250 people in the U.S. die from food-borne pathogens from all sources with virtually no deaths from raw milk. Thus, the risk of dying from asthma is over four times greater than the risk of dying from food-borne pathogens, from all sources; and infinitely greater than the risk of dying from raw milk. Yet, defenders of pasteurization or detractors of raw milk insist that children should not have the right to consume raw milk, even hinting that parents who love their children enough to give them raw milk are guilty of endangerment.

Our opponents today will insist that raw milk is inherently dangerous and there is no way to make it safe. Actually, they did not

insist that, but that's what FDA insists; there is no way to make raw milk safe, they say. These arguments are based on 40-year-old science and a discredited medical paradigm. Raw milk is inherently safe. It is safer than any other food and we have the technology and knowledge today to get safe raw milk to children in every part of the country. And it is not using the ten coliform limit. That's a way of putting these dairies out of business.

Our opponents will insist that raw milk has no health benefits compared to pasteurized. They will omit mention of many studies which show that pasteurization destroys the vital qualities of milk, reduces nutrient assimilation, and renders it allergenic and difficult to digest.

In summary, I urge the Joint Committees to work towards overturning AB 1735 and doing everything in their power to support raw milk in California. Opposition to raw milk is illogical; it is unscientific; it is expensive; and it is heartless and cruel.

The child who benefits from raw milk, perhaps even whose life is saved by raw milk, may be your own child or your own grandchild or even a child or grandchild of our opponents. Our efforts are dedicated to all children.

We have the knowledge and technology today to get safe raw milk to every child who needs it. And we ask that you work with us and not against us to achieve this important goal.

Thank you.

SENATOR FLOREZ: Okay. I'm not sure if we should just go through the whole panel and then we can take some questions but let's go ahead and try that, if we could. Let's get through the panel and then I'll ask some questions in general.

ROGER VONDERPLANITZ: Hi. My name is Dr. Roger Vonderplanitz, Ph.D. in nutrition and biochemistry. I graduated summa cum laude.

When I was doing my chemical laboratory work I was examining bacteria in its natural environment instead of the Petri dish which usually occurs. So what I found was that bacteria was more often specific to a certain disassemblment of a cell and not the destroyer of the entire body. So what I came to realize, that bacteria in their disassemblment of toxicity within a cell removes certain damaged tissue, the ultimate small cell of a cell—the cellular structure within the cell. And what it shows is that they are janitors in their natural environment. However, when they're put in Petri dishes in an unnatural environment, they behave differently and they start destroying the whole integrity of cells. So, everything that is based in our system of microbiology within the food world and containment of bacteria is based on a wrong premise.

In Canada, one of my first studies on the elements of chemicals, on the reaction of children (they were school children from the age of second grade to the seventh grade) and they found that when they removed certain additives and food colorings, they lowered the amount of diarrhea and vomit for the year about 40 percent. When they removed certain food colorings, they reduced it by 60 percent. When they removed all of them, the children relatively had few colds, if any. They had no flus. And a lot of people don't understand the difference between colds and flus anymore because the media mixes it so heavily. But a cold is mainly bacterial oriented and a flu is mainly viral oriented. And you're also hearing a lot of bad information that live virus—there is no such thing as a live virus. Virus has no nucleus. It has no respiratory system. It has no digestive tract. It is a combination of amino acids, of proteins that cause the disassemblment and reassemblment of particles and these we use and address to build certain kinds of cells and to destroy and dismember and clean the body. So when you base the entire bacterial system and blame it for food poisoning, you've got a real problem when you're putting additives in foods.

Now, all the health departments base their exploration of contamination when they search for a particular food it is a survey, nothing to do with science. They get a report from a doctor or a hospital that says we have a case of bloody diarrhea or bloody vomit or excessive diarrhea or vomit and these are the names and addresses and telephone numbers. So, sometimes in the next three weeks to three months a Health Department employee will call that family or that person and say, “What did you eat?” How many of you remember what you ate last week much less that time in your span? On those questionnaires are always, “Do you drink raw milk?” “Is raw milk in your home?” “Do you eat rare meat?” “Do you eat raw meat?” If you answer yes to any one of those four questions, that is automatically attributed to the problem. If you say raw milk over raw meat, let’s say you’re of Italian background and you eat carpaccio, then, of course, if you have raw milk in your house, it’s the raw milk that gets the blame and not the carpaccio. But it has nothing to do with science.

And like Sally said, when they find a product, 80 percent of the time they’re not even testing the product that is involved in anything because there’s no product there to test or to investigate but yet they will blame raw milk or some other so-called pathogen. And I don’t look at them as pathogens unless they’re grown in their unnatural environment in a Petri dish which is all happened. When I was at UC Davis that’s all we did. There was no natural environment of testing.

If you look at the work of Joel Weinstock, a gastroenterologist at the University of Iowa, he proved that when he saw....he was raised on a farm and he saw that the pigs at the university were very sickly, so because he was a gastroenterologist he investigated the intestinal tract of those pigs and found that they had no pathogen; they had no parasites. The whipworm; and what have you been told all these years? It’s the worst thing you can get from pigs—the whipworm. So, what he did was, he took the whipworm and he introduced it into the pigs’ intestines and

they got well. So you have to take a look at what is being identified with these epidemics of diarrhea and vomit. In my cases, with children and adults, especially everybody that the government label identifies as the people who will be most ill affected by raw meat, are those that are most positively affected.

I've got people from anywhere from a few months old to 97-years-old who have completely changed their lives by having raw milk. I was a fellow who was very sickly as a child. I developed cancer of the blood and bone, which is multiple myeloma, and lymph and stomach cancer at the age of 20. I was not supposed to live to be 21. They gave me a vagotomy pyloroplasty, which means they severed the vagus nerves to my stomach so I would never again secrete hydrochloric acid and the doctors told me that I could never ever eat even a raw apple, it always had to be steamed or boiled.

On my death bed after the treatment left me completely crippled from the pectoral muscles down after radiation and chemo, the radiation was so bad it cauterized my spine, my movements like this, every moment I was in excruciating pain, an 18-year-old at the hospital said, "You need to drink lots of raw milk and carrot juice." Guess what? It changed my entire life. My grandparents were rich farmers. They didn't need to be farmers, they just did it. They boiled the milk all the time. I was always sickly. And then when I started getting the raw milk, sure it took me a long time to get well, but by doing that, I was able to live. I am 40 years past that death sentence. I turn 61 next week and I should have been dead at 21. And I know that it was raw milk. Because every time I went back to pasteurized milk I had the same problem.

SENATOR FLOREZ: Thank you very much. I appreciate your testimony.

Okay.

RON HULL: Thank you. I'm Ron Hull. And I am the principle microbiologist with Ron Hull and Associates in Australia, in fact,

Melbourne, Australia. And it's a pleasure to present some scientific evidence to you Senators today here on this issue of raw milk. I was invited by the Weston A. Price Foundation to present some scientific evidence on raw milk and, in particular, my experience on pasteurization and dairy products, in general, on public health.

My background is that I did a Ph.D. in microbiology and the topic was the mode of action of _____ which are antibiotics produced by *Escherichia coli*. I then spent some time, actually in this state, at the Stanford Medical Center in the pathology department looking at cancer research. I then returned to Australia in 1974 and spent 20 years in CSIRO. CSIRO stands for the Commonwealth Scientific and Industrial Research Organization which is the federal government's body to research into various areas of national significance in Australia and provide those benefits to the relevant industry. I was working as a microbiologist in the dairy division of that section of CSIRO, and eventually as head microbiologist in charge of all aspects of microbiology which included being curator of the collection of microorganisms which are used in fermented food production in Australia.

Just by way of background, Australia and New Zealand together, contribute around four percent of the world's milk production, but together they contribute more than 35 percent of international trade in dairy products. So research in Australia and New Zealand is at a very high level with respect to food safety in dairy products. Often there are many cases of genuine food safety issues, but most of them were simply tariff barriers in the guise of a technical issue.

Since 1994, I've been a consultant in my own business, consulting to various food companies in the area of food safety, food products, HACCP plans and those sorts of things.

It's been interesting listening to the discussion here today. And perhaps with a little bit of more background, Australia actually has not legalized raw milk, or raw market milk, I should say, but we do have a

standard for it in our standards. And the situation at the moment is, when a company decides they would like to go ahead and do that, if they produce a HACCP plan then I believe we will see the legalization of raw market milk in Australia.

So let's turn to milk as a product.

Raw milk is a living food. And by living food I mean it's living as we know fruits and vegetables are living. It has the same basic functions as those products. Pasteurization kills those living aspects of raw milk. And what are those aspects? Well, they consist of white cells, which are the same sorts of cells which are part of our innate immune system which protect us from infection. And then it contains a whole host of enzyme systems which are antimicrobial and there's also enzymes which assist in digestion of the milk. Now, many of those are inactivated during pasteurization and, in fact, we use that fact as a simple measure of monitoring pasteurization such as the phosphor taste test. The enzyme in milk which is inactivated by pasteurization and it's in our legal standard, and I suspect it's in the American standard also, that pasteurized milk must comply with the phosphor taste negative test.

Coming back to the antimicrobial systems in milk, there are a number of them and they are extremely potent systems and science hasn't unraveled exactly how they work at this stage. But as you've heard today, when people drink raw milk those system do have an effect. Now, what is that effect?

Well, we don't know the whole story but we do know that it increases immunity, certainly gut immunity. We know that lactic acid bacteria, which are a key part of gut immunity, are actually promoted and are promoted to grow in raw milk. It's the only group of organisms that is promoted by raw milk. And we all know that if you allow raw milk to stand at body temperature or room temperature, it curdles and becomes sour. You can drink that product, eat it; it would never hurt you. If you take heated milk, pasteurized milk, and let it stand, it

putrefies. And when you look at it, it curdles. It then shrinks and wheys off and if you smell it, it doesn't smell very nice. If you eat it or drink it, it may make you sick; it might make you very sick and that's because it's a different group of organisms growing.

Now, the point I'm making is that raw milk doesn't allow those organisms, those spoilage organisms and pathogens to grow. And one of the key factors in that is that when milk comes from the cow it actually contains 8 percent dissolved carbon dioxide. And that level of carbon dioxide makes milk rather like beer, I guess. It's carbonated. And that immediately excludes all the anaerobic microorganisms from growing in it.

Now, what happens when we take that milk to the creamery or to the processing plant is that that carbon dioxide is lost and is replaced by air and oxygen. And so, now we have a completely different environment.

Now, one of the things that happens in raw milk is that the white cells in the raw milk continue to use the oxygen as it comes in, keeping it anaerobic. That doesn't happen in pasteurized milk.

So, what I'm arguing is that pasteurized milk, per se, is, in fact, a very safe product if you understand the biochemistry and microbiology of it. And I believe now we do have that science. We have it very well understood and that should enable us to be scientific in an approach to food safety.

Now, the specific argument that you've been looking at, the coliform issue, I think stems possibly from the historical situation where in this country it was recommended by one of the committee's in the public health department recommended to the dairy industry that the coliform index or coliform test would be a good indicator for food safety of milk, of pasteurized milk, I should say. And, indeed, in 1930, the dairy industry here adopted that coliform test as an indicator of the safety of the milk. But when we pull that apart, what is the coliform test doing?

Coliforms are in the raw milk. They are killed by pasteurization; therefore, there should be zero in the pasteurized milk. We set a limit of ten or 50 or whatever, it really doesn't matter what it is, if that number is low, then the sanitation and the pasteurization process is said to be acceptable by experience. And that's fine. I have no argument with that. But it's not applicable to raw milk because we don't use the pasteurization step. Further, the coliform test does not indicate pathogens—they may be present; they may not be.

We have with us now, because of the huge number of food-borne outbreaks in the recent years and the advances in science, tests for specific pathogens, and they are rapid methods. We heard earlier that it would be too difficult; too expensive. I don't believe that is the case at all. We have specific tests for the pathogens that are important in raw milk. And I believe simply an application of a standard which prescribes absence, or sets reasonable limits for those pathogens, is the most effective way of assuring food safety.

I'd just like to mention one other topic and that's, I think it's going to be covered by one of the other members of the panel, but I omitted to mention that I also lecture to post graduate and undergraduate students in food safety and food microbiology in several universities in Australia, and I have also had the opportunity to do that at the University of Wisconsin, River Falls, on occasion. So, in that program we talk about food safety and hygiene. And hygiene is often misconstrued as simply only one of the aspects or one of the factors in hygiene. I'm sorry, I maybe not saying that very clearly. If we come back to hygiene, what is hygiene? Hygiene is the science of health. It's also the practices that maintain health. And so, food safety and food safety regulation is about the latter.

What do we mean when we talk about the science of hygiene and the science of health?

Well, for infectious diseases to occur we need to have three things happen—three factors.

First of all, we have to have the pathogen or the toxin. We can have no disease without the smallpox virus. It can't happen.

Secondly, for the smallpox virus to infect and cause disease, what we call the environment, the chemistry of the environment must favor infection. In other words, it must allow the smallpox virus to go about its business of infecting and continuing to infect. And we refer to that as the environment; the chemistry, if you like.

Thirdly, the person must have no immunity to the virus.

Now, in medicine, what we do is we use that latter factor to control the disease in the public. We immunize people and it's effective. So, we don't worry about the smallpox virus. We don't worry about the chemistry in the environment.

In the food industry we have been focusing on the causative agent—the pathogen. We always hear about if we reduce the pathogen; if we reduce the microbial load, we will solve the problem. It doesn't work like that. In the fermentation industries where viruses are a major problem, if you take that approach, it doesn't solve the problem. You solve the problem by immunization of the microbial cultures, which was talked about earlier.

In the food industry we have the opportunity to change the chemistry of foods and we do that all the time by reformulating foods, we say, to make them better—either more nutritious or more safe. And often, when we think we make them more safe by changing the chemistry, we create another problem. But science has shown us what are the factors in food which are critical to that second factor of infection. We can actually take any food now, take it apart and look at the factors which are critically important to multiplication and infection. And I believe in food that is the best approach for the manufacturer. To ensure that his food, no matter what, would never allow infection to occur.

So, coming back to this situation of raw milk, many countries have adopted HACCP plans, which you talked about earlier, and I think these can be effective. Just as a side comment: I think there's a lot of gobbledy-gook in them and I think they are cumbersome and they are great for bureaucrats. But for practical people, I'm not so sure. But nonetheless, that framework is well established internationally and I think that is one way forward.

And the aim I have always with a HACCP plan is that you only want one, if possible, critical control point. And it needs to be one that is very obvious and easy to test for. It's obvious in the product if you've got it right. And traditionally, when we heard about fermented foods, we all know when the yogurt is ready. It changes its appearance. We all know when the fermented sausage is ready, and we know how to make it with an appropriate recipe.

So, I think with HACCP we can look at applying that to raw milk. And in the current situation here, now, where we have very well controlled farms, I believe, and they could be subject to HACCP plans. We've done that in Australia and the farmers are complying. I'm not sure they're doing it, but they are certainly complying with the orders.

But certainly with organic farms, where levels of pathogens are quite low, I know we've heard people from the department saying here today that that's not necessarily the case, but in Australia we have, in the last decade, moved from grassland farming to feedlot farming. And so, we now have an enormous amount of science and understanding about pathogens, because we now have pathogens like you do because of the intensive farming—feedlotting, but we've learned how to control it. And once you understand it, it's like anything, you no longer are afraid of it and you can just tackle it front on.

So, I think we can tackle pathogens on the farm, minimize them; we know how to do that, and so, that can be encompassed in a farm

HACCP plan as a possibility. But the raw market milk, I think is adequately served by pathogen testing.

Thank you.

SENATOR FLOREZ: Thank you very much. I do have some questions on pathogen testing at the end of this.

ROBERT IRONS: My name is Dr. Robert Irons. I have a Ph.D. in nutritional immunology from the University of Missouri, Columbia. And I thank you for your attention to this matter of dairy safety and consumer choice and for the opportunity to provide expert testimony in my home state of California. My field of expertise, as I mentioned, is nutritional immunology, meaning how the foods we eat affect our immune system. I received post doc training at the National Institutes of Health, National Cancer Institute. I testify today as a scientist in the fields of nutrition, microbiology, immunology and health.

As the title of this hearing states, your objective is to balance the need for a safe food supply while not infringing on consumers' choice or the public's access to that liberty. Others will attest to the facts that raw milk has been a natural food for humans since the beginning of man. Consumer opinion demands raw milk and the constitutionality of liberty and the right to choose.

My testimony will give you a scientific weight to balance consumer choice with health care and safety concerns.

AB 1735 made changes to the Food and Agricultural Code that have done very little to protect consumer safety while at the same time potentially preventing from entering the market a fundamentally natural and necessary dietary component—raw dairy. There are parts of AB 1735 that were good changes and I agree with because they make scientific sense to promote food safety. Just reading the summary of the bill has those points. The single most effective method to reduce food-borne illness from dairy products is to control the growth of bacteria by

reducing the time and temperature at which milk shall be cooled, stored and transported.

AB 1735 changed Section 35783 to reduce the time in which market milk is required to be cooled to 50 degrees Fahrenheit or less to within four hours of the commencement of the first milking instead of the five hours that was previously written into the statute. Therefore, milk gets cooled more quickly and bacterial growth is inhibited. That's a good thing.

AB 1735 also added to Section 35783 a requirement for colder refrigeration to 45 degrees Fahrenheit or less within two hours after the completion of milking and to maintain the milk at that temperature until delivery. These are effective food safety measures.

The other most effective method to promote food safety is to prevent initial contamination. California Food and Agricultural Code Sections 35681(a) through (c) and 35891(a) through (b) already provide for monthly and bimonthly inspections and score determination on raw milk dairy facilities to ensure that dairy collection techniques are sanitary and meet current statutes thus the problem of initial contamination is addressed by current law.

Section 35681(e) of the Food and Agricultural Code provides enough language to provide the consumer with reasonable safety and knowledge to assess raw milk consumption. Quoting: "Guaranteed raw milk shall be sold to the consumer within 30 hours after production and labeled to indicate the date of sale to the consumer. This language protects raw milk quality by ensuring quick distribution to the consumer and provides for full disclosure so the consumer knows within what timeframe they may chose to consume or use that raw milk. This language should be considered for proposed bills."

The part of AB 1735 that are based on flawed science, which I take absolute objection with and urge these committees to correct, is the language in Section 35781(1), 35861(d) and 35891(c) which require that

“market milk, including Grade A raw milk, be delivered to the consumer and it shall contain not more than ten coliform bacteria per milliliter.” This language is not based on sound microbiological, nutritional or health science.

The law currently requires that certain raw foods that may pose an increased risk of food-borne illness carry a warning, thus many raw foods are ingested with full knowledge by the consumer of the inherent bacteria and risk of food-borne illness as well as raw foods health promoting effects. Raw dairy ranks low in the relative risk of foods, as you’ve heard testimony to that effect.

Take, for example, the case of oysters, sushi, steak tar-tar, eggs sunny side up, these foods are permitted for consumption without strict coliform requirements. However, they carry the appropriate labeling or warning, “Consuming raw or undercooked meats, poultry, seafood, shellfish or eggs may increase your risk of food-borne illness, especially if you have certain medical conditions.” Perhaps it is time that “dairy products” is added to this list.

The science of raw milk should center around three main issues; safety, nutrition, and health benefits, with the ultimate goal to strike a balance between allowing the health promoting effects of raw milk while ensuring a safe food supply.

For a point of clarification, one of the previous experts mentioned that there had been pathogens found in milk and I wanted to make a point of clarification that I have it on good authority that no CDFA tests have ever found pathogens in Claravale or Organic Pasture’s milk. There was some listeria positive test in cream that was purchased and brought in to that farm but no pathogens, actually, have ever been found in Claravale or Organic Pastures milk.

So getting to safety.

The language of AB 1735 put food safety assurance at the monitoring stage, which is not effective in the bacterial world. Given the

right conditions, a single bacterium, a single cell, can grow to over five billion in just 12 hours. That's over ten to the ninth coliform units per milliliter. That is why it is so important to focus on inspection and appropriate handling techniques to prevent the initial contamination and growth of bacteria.

The quantitative limit of ten coliforms per milliliter is not scientifically valid. Standard microbiological practice and the Association of Official Analytical Chemists (AOAC) method for coliform measurement in dairy have a quantitative limit of 25 CFU per plate. The sampling error of this method alone allows a ten-fold margin of error, making even one bacteria in an entire vat of 500 gallons of milk count as ten CFU per mil. Even stratification of water treatment plants for quality relies on a point system whereby up to 100 coliforms per milliliter account for only two points toward an 80 point system of water quality.

The coliform limits are greater in water than in raw milk yet most individuals consume more water than raw milk. In other words, your friends and family are already consuming more coliform bacteria in their water than they would consume drinking raw milk. A policy basing raw milk safety on ten coliform per milliliter is not the answer to achieve food safety because it is qualitatively and quantitatively inaccurate.

Until AB 1735, Section 35781(1) established a limit of less than 15,000 bacteria per milliliter with no stipulation as to coliform content. This natural coliform content is the ultimate goal of many raw milk consumers. Sound public policy and scientific principle dictate the coliform stipulation for raw milk be removed from law.

Raw dairy has built-in natural safety mechanisms, as were discussed by Dr. Hull and others. The symbiotic bacteria that are present in raw dairy, such as coliform and other bacteria that live in symbiotic relationships with humans compete with and overgrow pathogenic bacteria in raw milk. Symbiotic bacteria also secrete antimicrobial factors that inhibit the growth of pathogenic bacteria, such

as lactic acid, lacto-peroxidases(?) and other proteins. Antibodies naturally present in raw milk help destroy pathogenic bacteria through the process of opsonization, where antibodies bind to bacteria and enhance cell membrane rupture and phagocytosis. Furthermore, raw milk is not a suitable growth medium for pathogenic bacteria.

Food safety regulation through the use of monitoring practices as outlined by AB 1735 is an ineffective approach and fails the cost versus benefit analysis that must be applied to all food safety processes. Destruction of a naturally protective mechanism in raw dairy occurs during the act of pasteurization which brings post-pasteurization contamination of dairy to the forefront as the most significant threat to consumer dairy safety. This area should be the area of future bills to improve dairy safety.

Regarding nutrition: The nutritional quality of milk is altered by pasteurization. The CDC continues to disseminate erroneous information on their website regarding this point.

And in my written testimony I provided a letter to CDC, as well as several references that are easily obtained with a quick literature search, that shows a direct comparison between raw, in this case, human milk and pasteurized human milk and the inability of infants to grow on the pasteurized milk. So, the nutritional quality is affected.

As I mentioned, human babies thrive well on raw milk but show reduced growth and health when the same milk has been pasteurized. Veterinarians and zookeepers require raw, unpasteurized milk as a suitable source of nutrition for their animals. Pasteurized milk will not suffice.

The bacteria in raw milk have effects on the physical and physiological environments of the gastrointestinal tract of humans, thereby contributing significantly to our own nutrition and immunity. For instance, lactobacilli, the bacteria, increase soluble immunoglobulin A production in the human intestines. They also contribute to immune

balance, the TH1 versus TH2 balance in immunity, which covers inflammatory response or antibody mediative responses, and it also strengthens the mucosal barrier by increasing tight junction fit. So we don't want sterile foods, necessarily; we want foods with some bacteria in them.

The hygiene hypothesis and oral tolerance that exposure to antigen prepares our immune system and limits autoimmunity is being proven true by studies that show better immune related health in children exposed to farm versus non-farm environments. A study with 15,000 children, as Ms. Fallon mentioned; 15,000 thousand children over three years showed that those that access to raw milk had a reduced incidence of asthma and allergies. Even entering this world, studies show that a baby is healthier if delivered vaginally because of the initial ingestion of bacteria that colonizes the newborn's intestines does not occur with a caesarian birth. Our nutrition affects our intestinal microflora which affects our health and vice versa. It has been shown that a high maltose diet increases gram positive fermecute(?) numbers which is linked with obesity.

Good nutrition promotes an appropriate fermecute(?) which are gram positive bacteria to bacateria-dete, gram negative bacteria. It promotes an appropriate ratio while poor nutrition increases this ratio and contributes to obesity. In other words, diet has such profound impact on intestinal microflora that mice switched from a plant-based diet to a simple sugar diet exhibited changes in their intestinal microflora that were consistent with obese mice.

Science is beginning to understand how these bacteria, nutrition, immunity, and health have intervening mechanisms of action and how a sterile environment is not in the best interest for long-term health.

Regarding health benefits: Ultimately the risk of all foods must be weighed against their health benefits. Since coliforms are a necessary part of human health and existence and naturally colonize the human

body via ingestion, why would the Legislature ban a food based on this coliform count content? The very bacteria that AB 1735 excluded are the same found naturally living in a human intestinal tract as intestinal microflora.

Intestinal microflora refers to the varied species of bacteria that live in the healthy human intestine. When these bacteria are present in food they are termed probiotics. When these bacteria exist in intestines and enter the environment they are termed coliforms. Coliform, then, is from the Latin root for colon, cole. Coliform include 11,831 bacterial sequences that represent species found to colonize the healthy human intestines. Some of the human intestinal microflora consist of bifidus, lactococcus, lactobacillus, streptococcus, E-coli, and _____ species. Even Dr. Harris' testimony earlier today stated that not all coliforms are pathogenic. That's an important point to remember. Thus, coliforms, probiotics, and intestinal microflora are indistinguishable by standard coliform plate counts.

Coliform testing is normally used as a surrogate for fecal contamination but it should not be applied to raw dairy because some of the same bacteria strains that make raw dairy a probiotic will show up on a coliform _____. The AOAC standard method for coliforms uses a growth media containing two percent lactose, the predominant sugar in milk, that is readily digested by lactobacillus and lactococcus bacteria which are common to both raw dairy and the healthy human intestinal tract.

Probiotics are defined as live microorganisms that when administered in adequate amounts confer a health benefit on the host. (This is the World Health Organization definition). Published studies on probiotics health benefits include asthma, allergy, gastrointestinal disorders, cancer, etc. And recommended doses of probiotics are in the range of one- to ten billion bacteria per day.

These aerobic and coliform bacteria live in a natural and symbiotic relationship with humans as part of our intestinal microflora which experts say contribute to over 70 percent of our own protective immunity. These bacteria constitute ten times the number of cells in our entire body, weighing up to two to four pounds, and have a microbiome that is 100 times that of the human genome. And this intestinal microflora has metabolic activity that is greater than that of our liver.

Probiotics and coliform have similar yet distinct effects on our immune system. Gram positive and gram negative bacteria have distinct effects on the innate immune response *in vivo* and exhibit marked similarity and cydocon(?) response patterns observed between probiotic versus pathogenic coliform bacteria.

Dairy products have always served mankind as a dietary or probiotic source of these bacteria. A restriction on raw dairy based on coliform counts is a restriction on health promoting functional foods without any real benefit to the consumers' safety. Therefore, Sections 35781(1), 35861(d), 35891(c), 35971, 38671, 38731, and 38761, including light cream, light whipping cream, heavy cream, whipped cream and eggnog, these sections of the Food and Agricultural Code should be amended to remove coliform language requiring for these raw milk products....requiring that these raw milk products shall not contain more than ten coliform bacteria per gram.

The coliform content can be healthy as well as pathogenic and it is what the consumer wants in a probiotic functional food. What should be required is testing for lethal pathogenic bacteria such as listeria, salmonella, E-coli 0157H7, and others. Also, the hazard analysis and critical control point methodology and procedures that have been discussed today, I think, are a good way to ensure consumer safety.

The important point to remember at this juncture is that these heat liable, beneficial, antimicrobial nutritional and immune enhancing natural properties of raw milk are destroyed when heated and processed.

Milk will always contain some bacteria. This is one of the reasons why consumers drink milk—as a probiotic for health. Thus, it is illogical to limit availability of raw, natural probiotic functional food based on coliform counts. Probiotics are recognized as coliforms upon _____. A restriction on raw milk based on coliform counts is a limit on a natural probiotic food. Probiotics are recognized as essential for health.

In fact, I just returned from a meeting at experimental biology two weeks ago. The International Life Sciences Institute, North America Division, had a conference on microbes and health. And one of the prominent speakers was Dr. Walker from Harvard Medical School, talking about the importance and the role of intestinal microflora in health and how really absolutely essential it is.

Logic dictates regulating sanitary methods, storage conditions, pathogen testing, and inspections to ensure that product quality stays high from the start to the consumer, and in the end it is up to lawmakers to ensure that consumers have free access to choices that determine their health.

Thank you.

SENATOR FLOREZ: Thank you very much. Can you repeat that last part again? (laughter) Thanks for the testimony. I do have some questions for you, as well, on HACCP and some of your testimony.

Yes, the last panelist. Thank you for joining us.

TED BEALS: I really applaud you for spending the time that you are on this topic. It is extraordinarily complex. And at this stage of testimony from people that is high technical, your eyes aren't glazing over. And somehow or other, I have a very hard time. I have given you an extensive written statement with annotation in it so that you can look at it. I will not go over the details of that at this time with the hope that dialogue on some of these key questions that are focused to you all are ones that we can get into. And I'll pick on a couple of those, because your questions that have been asked in this hearing cause me to rethink one

of the topics that I had almost dismissed from my written testimony. So I'll expand on that.

I come at this from kind of a unique perspective and so let me give you just a little background on myself. I'm a retired pathologist from Michigan. My professional life has been devoted to providing the best possible health care to those who served our country in time of need. Thirty-one years as a practicing diagnostic pathologist at the VA Medical Center in Ann Arbor. But during that same time, I was on the faculty of the University of Michigan in which my responsibility was to emerging young, bright, energetic medical students and it was my responsibility to give them the best information that I could to prepare them for their life as physicians. And then in my final years, I had the privilege of being appointed in the federal senior executive service responsible for the operations of the VA medical system's nationwide diagnostic service. And so, I did have an opportunity to serve at that role and it brought a whole new perspective to what it is.

For the past five years my wife and I switched from drinking commercial Grade-A milk to consuming more than three gallons per week of what we in Michigan call, fresh unprocessed milk.

Let me divert for a moment because it will come up again a little later.

In the state of Michigan, unlike this state, the dairy laws ___ milk laws, have a very small phrase that just simply says, "If it's not pasteurized you can't sell it." And we are one of the states where we have developed a program of cow shares in which people, as you know and have heard about and I don't need to reiterate how that works....my wife and I were privileged to be invited by our Department of Agriculture to sit on a workgroup consisting of their senior staff in dairy science, the milk producing representatives, dairy farmers who were involved in cow shares, and consumers, to sit with them and discuss how best to enable this product to be made available to the consumers who wished it in the

state of Michigan. We have spent more than 30 hours sitting around a table talking about that. And one of the very first things that we did was to recognize that in the state of Michigan raw milk is defined in the Michigan milk laws as milk which is destined to be pasteurized. And so we realized right at the very beginning that we had a problem and it's not just a semantics problem, it's a very real problem, and I think you all need to appreciate that and I want to make that point.

So the first thing that we did was to essentially accept, around our table, as a consensus, that the product that we are talking about is a different product. And we chose this term "fresh, unprocessed milk" to make us, all around that table, aware of the fact that the product that we are talking about is a fundamentally different product than the product that they deal with on a daily basis, and the PMO deals with, and our state milk laws deal with. And in your case it's a little different because you are one of those few states that actually don't have that sentence in your milk laws and so it isn't....so I come at it from that perspective and it's important.

I was trained as a diagnostic pathologist to make the very best accurate decisions that I could in the care of people. As a teacher, I was faced, every time I stood in front of the medical students, with the point that I wanted to make sure that what I was telling them was not just simply the dogma that I had been told by my mentors but was in fact tested by current research, current knowledge in the advancements that we've come forth. And I would propose to you that one of the reasons that you have two panels here today that seem to be giving you very conflicting information is because of that problem of dogma.

Dogma is sincerely believed by the people who say it. To them it is fact. And as I kept telling myself every time I went in front of medical students, I said "These are very bright people. And I know for a fact that some of the things that I was told as dogma are now just simply not true. And it wasn't because my mentors were wrong, it was because of the

state at the time, that was what they truly believed and when they told it to me, that's sincerely what they believed." So there is a difference of opinion here. It has everything to do with sincerity, because you hear it and the people are very sincere. I think you, as legislators, need to look beyond dogma and do that second reality check. Is this really fact in the light of current knowledge and where we stand? And I think that's a responsibility that you have, and I suspect that that's a responsibility because you're here, that you take seriously.

Let me cover a couple of areas that have not been covered by the people that have come before us.

SENATOR FLOREZ: And I think you're saying dogma cuts both ways, right?

DR. BEAL: Yes. Absolutely. We've got to look at both ways and I'm trying to make that point.

Over untold generations of human development, the persistent consumption of milk has been integrated into the complex relationships we have with the microflora of our bodies. We must appreciate that because we reproduce and grow at a slow rate, it would require a very long time to modify our side of this relationship. But the microorganisms grow, divide and modify at a phenomenal rate. Many of the bacteria in our intestines multiply every 20 minutes and genetic alterations occur spontaneously and regularly. Although it takes a long time for people to change in a way that modifies these complex relationships, the microorganisms are modifying as we watch.

The more we look and the more we understand that this relationship between people and their personal microflora, both in their intestine and on their skin and in their mouths and in many other locations is extremely complex. And because of the persistent use of milk in the diet of many people of the world, we and our associated microorganisms have developed some incredibly important and interdependent mechanisms for survival. This has happened because the

consumption of milk conferred significant competitive advantages. It is obvious, but it needs to be stated, that if milk had been hazardous to the individuals in communities that consumed it, the drinking of milk would have disappeared centuries ago.

What scientists are beginning to understand is that milk producers in their zeal for producing a product that would satisfy their customers, have had very serious unanticipated consequences. We should be quite honest that the major reason for pasteurization of commercial milk has to do with shelf life. It still has to do with shelf life and that's why they keep pushing the limits of pasteurization. In that regard, they have always said it was about safety, but I think you should realize that it's really about the persistence of shelf life which is, from a business point of view, extraordinarily important, because if they've got a product that spoils before the consumers can consume it, then clearly, they're not going to be able to sell that product. And so, that is correct. The important thing to understand is that the thing that spoils milk is not pathogens. Spoiled milk is not hazardous to our health, it's just extraordinarily unpleasant to the consumer and as a result, it makes an unmarketable product.

SENATOR FLOREZ: You mean an unprofitable product.

DR. BEALS: Yes. It sounds acceptable, so therefore...

SENATOR FLOREZ: Here in the Legislature, it's our number one issue everyday, profits.

DR. BEALS: It is profits. One of the interesting things that we haven't said up here, which I do want to emphasize, is that there have been large numbers of studies that have talked about risky behavior. And one of them is that in the recent years the FDA has been looking very seriously at pathogen content of what we all know as bulk tank milk and they've been taking that very seriously.

Interestingly enough, that is all milk which is routinely sampled as part of the regular processing that goes on under regulatory and

business practices. They've been doing that. Almost all of those studies bring up a very interesting point and that is, that from their perspective, the farm families, many of the farm families that they are surveying in fact are drinking, consuming regularly, the milk out of their bulk tanks. And they refer to this as the point that this is a very risky behavior. And as a result, we really ought to do a better job of educating our farmers that they ought not to be consuming this hazardous product.

The interesting thing about those scientific papers is that I haven't read a single one of those papers that said that they were finding farm families that were getting sick. From a physician, this is a very important point. I don't know exactly why that is, and there are probably a number of reasons, and we can go into them, but I think it's a very important fact that we ought to look at.

One of the other things that I want to point out, is that the CDC which does a very good job of looking at incidents of food-borne illness, and you all are aware of them, I have not seen a single example of an incident of food-borne illness in which everybody that was exposed to the product got sick, even when the amount that they consumed was the same amount that the people who got sick got. As a physician, this is a very, very interesting fact and it is one that we have not spent a lot of time about. I would suspect, in fact, that there are some very complex reasons why not everybody gets sick when they consume a product that has pathogens.

Not so long ago, one argument for using the generic bacterial cultures for monitoring safety of which coliforms is one, was that testing for specific pathogens was not practical. This has changed dramatically.

In the state of Michigan where our cow share farmers are very concerned about safety of their product, and they are not, obviously, currently regulated by the state, as a matter of fact, the state inspectors will refuse to come to them because they don't sell milk; it's a kind of interesting problem. We have been unable to find a routine certified dairy

laboratory that does not offer routine rapid turnaround pathogen testing at a limit they all were willing to pay for and was turned around in very rapid times that made it practical to do that. Because I think that's a critical point that needs to be addressed. Because, I went to the labs; I went to the dairy labs and I asked them specifically. They all offer this test on fresh product. And they will call you if they get the answer within 24-hours, the next day. And to my way of thinking, this is by far a much more practical way of going, now that that technology has gotten to the point where it has.

SENATOR FLOREZ: So you don't agree with the last panel that this is a process that is too expensive; would delay the process so people would go out of business, in essence?

DR. BEALS: Absolutely not.

SENATOR FLOREZ: And you don't disagree that this would be an inexpensive process for the industry that charges a Milk Pool fee, for example? I mean, this is something that would be beyond...

DR. BEALS: Yeah, it's a California issue. We don't have that in the state of Michigan, so I can't actually talk knowledge about that. But some of the farmers here, some of the producers here could talk about that.

But as far as the question on pathogen is concerned, there's two points that I want to make. Number one, the labs offer the test. The labs offer to give you the results the next day. It takes 18 hours of incubation, pre-incubation time, and about 15 minutes to run through the machines. And they can get you the answer if you want the answer back.

To my way of thinking as a food safety expert, that's not bad timing. That's not as good as I'd like it, but it's not bad timing.

So let me go on and...

SENATOR FLOREZ: And you would say that takes us, as has been mentioned, from testing at the monitoring stage to where we should be testing, in other words, so at the end of the process?

DR. BEALS: Yes. At this point in my written testimony I gave three sentences to HACCP because quite honestly, because I wasn't aware of this committee and what you have, I thought that was a lofty goal that you would not be interested in.

SENATOR FLOREZ: You could say you didn't think we understand that stuff; that's fine; too lofty of a goal for the Food-Borne Illness Committee to understand. But it is something that we are very interested in, yes.

DR. BEALS: One of the reasons that I was appointed to my executive position in the VA system was because I was very concerned about critical point analysis and risk. And from my experience in the laboratory and just simply my experience in blood banking, risk analysis is an extraordinarily important thing. Critical point analysis for blood banking is at the highest level of anything that I know of. And so, we looked at it very seriously.

Let me point out a couple of things and we can talk a dialogue, if you will, about HACCP, because I think that is a very logical way to go and to do it. Let me say something about HACCP, though. If you're going to do HACCP, you have to look at the product and you can't say that the HACCP....there is a voluntary HACCP in the PMO. I don't know whether you know that, but there is one there. It's being used by some of the processors. That HACCP is really defined by what's happening within the manufacturing process itself. If you're going to do a HACCP concept as you're thinking about it for a product like raw milk, you need to look at it from the quality of the soils to the product which gets into the consumers mouth.

SENATOR FLOREZ: Like these two pictures here?

DR. BEALS: The two pictures are part of that. But I really honestly believe that if the product that we're talking about is predominantly a pastured product, then the quality of that pasture is very much a function of the soils. And so, the HACCP plan doesn't start

where the machinery is, it starts back where you are. So you are willing to consider a HACCP concept for raw dairy in this state which looks at that, then I significantly applaud you and I believe most of the people that are in food safety from an intellectual academic point of view would agree with you and I'd like to pursue that as well.

SENATOR FLOREZ: And would you say that would be, as one of the last panels did, a better, safer food process thought in terms of making this a safer product if HACCP was the guiding principle versus the test, the one test—the coliform test?

DR. BEALS: I'll flat out say that if I had a HACCP versus a coliform count on a finished product, I'll take the HACCP plan anytime.

SENATOR FLOREZ: Great. Then we have agreement between both panels, then.

DR. BEALS: With the understanding, and by the way, the same understanding because they said the same thing. It has to be a HACCP plan which looks at the whole product; it has good monitors; it has a mechanism for auditing; and that's where the regulators are, is in that auditing process, to make sure that it goes.

Let me give my conclusions because then I can do it and you can ask some questions.

My conclusions to this panel are: Raw market milk is a different dairy product with properties that require that it be processed differently. Regulatory controls for raw market milk need to be scientifically and statistically determined and must take these special properties into consideration, and a good HACCP plan would do that.

The use of coliform counts to indicate the safety of milk has outlived whatever usefulness it had decades ago. I don't think there's any question about that. Testing for specific food-borne pathogens in milk can contribute to our goal of providing safe milk for the public. Raw market milk has beneficial properties that include an important microflora that must be carefully preserved to maximize quality. And raw

market milk may not be for everyone, but for those that value this dairy product, they should be allowed to chose the benefits as we all work together to minimize the risks.

Thank you very much for your time and patience.

SENATOR FLOREZ: Okay. Thank you all for joining us. You're a year late. We needed you here when 1735 was being pushed through. It's unfortunate.

AUDIENCE MEMBER: _____

SENATOR FLOREZ: I don't want to get Rusty Areias going on this so let's not go there for a moment. I promised the science only today. But I think the value of this hearing is in the transcript and the testimony that allows the committee members in the Senate to better understand all of the options for us. And in essence, again, going back to the bill, if I could, and to the interest to the Senate Committee on Food-Borne Illnesses, to the original question: Are we testing in the right place; do we have the right test; and are we focusing in on a topic as a product that has no relationship at all to what one might think its counterpart is? It's kind of like me holding Mark McAfee responsible to soy milk, whatever that milk is, right? A different product called milk, but yet, different properties.

And so, I would like to ask the panel a couple of questions regarding HACCP and I'm sorry to keep going back to that. But, our interest is trying to figure out how to go beyond a one-test-fits-all approach, which I believe the ten coliform test is. So in other words, it says pasteurized milk has a standard at the end of the process and it's pasteurized and yet we're going to hold raw milk to the same standard which is unpasteurized, which the very face of it makes absolutely no sense at all. To any lay person sitting here in the Legislature, it just makes no sense. Given that, we now turn to our question, then, to what is safe? What should be the guiding principle in providing the governor with a bill that would, in essence, replace 1735? But I think the issue is,

what is that test? Tell us, as a panel, what is the test that is stronger than 1735. What should we put on the Governor's desk that assures safety; that gives us....as you closed, Dr. Beals, you said, "recognizes uniqueness of the product as a distinct product and not making comparisons to pasteurized?" Because pasteurized has a kill step...maybe, I guess. I mean, there are still issues on the pathogen side of pasteurized milk that are unresolved, and so, that is a whole different hearing and maybe a whole different bill at some point. But I think for raw milk, give me the test, while you're here, what should we put on the Governor's desk?

DR. FALLON: Can I just....I think these other panelists are better qualified to answer that question, but Dr. Payne brought up something that I think absolutely needs to be answered. And he talked about Washington State, where he said they have a robust raw milk industry and they are passing the ten coliform limit. I don't actually believe that statement. We have done a _____ request in Washington State to find out what the tests are actually showing, because the Department of Agriculture is not telling the farmers what their limit is. They're just saying "It's fine. It's fine. You passed."

And, yes, there is a very robust dairy industry up there. It's exploding. And I think they realize that if they enforce that limit, they're going to have a revolution. I don't actually believe that they are passing that limit in Washington State. And I would respectfully submit to this Committee that you get the actual records from Washington State and not take that at face value.

And I think the other thing that we understand about the coliform is that they divide rapidly when the milk goes through pipes and bottling machines.

And, I was very interested in Dr. Cullor's testimony, that in Europe where they sell raw milk it's 100 at the bulk tank. That's perfectly

reasonable. And he is not correct in stating that everyone, then, goes ahead and boils that milk, because they are not boiling the milk.

By the way, in Europe, in Germany and the Netherlands and Belgium, you can get raw milk in vending machines. They're all over the place. They're in schools. They go ride around in trucks and you take your jar up and put your coins in and you get your raw milk.

But I just would make sure that you actually verify that Washington State that they're actually getting the milk under ten coliforms because I don't believe they are.

SENATOR FLOREZ: Okay.

DR. BEALS: It is my opinion that this whole issue is unwarranted. I think this is a waste of all of our time, because every case that they blamed on raw milk they have no support. The deaths that they claimed were the cause of raw milk went to court, went to trial, in the eighties and the biologists that testified, including Dr. Warner from the California Health Department, admitted that there was no evidence and no proof that it was raw milk. So you still have these old issues being put before you that this is a problem. Raw milk has not been a problem.

In the eighties, Altadena was putting out 50,000 gallons a day and no problem. There is no problem.

SENATOR FLOREZ: I got it. Okay. Let's welcome....Senator Vincent and I, ten years together in the Legislature. What should we put on the Governor's desk that's better than the current bill that he signed?

DR. BEALS: Back to the way it was.

SENATOR FLOREZ: We're not going to go back to the way it was. We're going to figure out a stronger standard and we're going to do that today. So this is your opportunity to tell us. I can tell you what it is. Do you want me to tell you what it is?

DR. BEALS: Let me tell you. I've already said. And that is to test for pathogens.

SENATOR FLOREZ: Senator Vincent.

SENATOR EDWARD VINCENT: I've been listening to this and I just want to say a couple of things. And you can see I took some notes here so I'm not making this up.

I was born in Ohio and I played football. I got a scholarship to the University of Iowa. This was back in '52. And I went to the University of Iowa where I met my wife and she came from a farm in New Sharon, Iowa. So, she was telling me things, then, about some of the things you're saying.

Well anyway, I wouldn't have come up here because my wife was injured. She got hit by a vehicle. So I was staying home with her because I didn't want to come up here because I was wanting my wife to come up here _____. But anyway, so, she told me....

I like horses real much. I like horse racing. So I had a bill. I'd been working on it all the time because the horse racing industry is going out of this state—going other places. So I said, I had to come up today so I came up here today....and Dean's doing a wonderful job. Dean is chairing G.O. So I had to present my bill in G.O. today. So I came to my wife and she said "Well, go on up there." And I said, "He's going to have some things to say about some other things," and I knew about this one, but I didn't tell her. And so, my daughter told her and then she told me she'd be alright. I needed to come up and hear what you to say because apparently she knew what you were going to say but I didn't know it, from being on a farm.

So when I got through with my meeting with my bill on the horse racing thing, I went back to my office and _____ call my wife. She called me earlier. So I told her, "Well, Dean's _____ meeting. I really did know he was having this meeting. So I said....I was going back home. She told me, "You go to that meeting and you'll see what I've been telling you all the time." She did. She told me that. And I've got it written down here. It's just the way it is.

But let me say, we need something that we can take _____ and do something with it. I think this....you ought to be congratulated for doing this; you should be. (applause) I didn't know what you were doing. So when you guys give him something, you know, we'll do it. We'll get it done.

SENATOR FLOREZ: It sounds like a bill for Senator Vincent to carry as we figure this out. Thank you, Senator Vincent. And we've been with each other for a long time today. We had hearings starting this morning at 9:00, so it's been a long day.

Gentlemen, if I could, I want to keep you focused for a moment because we're going to go to the next panel. I need you to tell me what is the stronger standard than the current bill that the Governor signed?

DR. IRONS: The difference between 10, 20, 50, 100 coliform forming units per ml is not an indicator of safety. And I think this Committee...

SENATOR FLOREZ: And I'm absolutely there with you. What I mean by that is...

DR. BEALS: The substitute for that is pathogen testing.

SENATOR FLOREZ: Okay. Pathogen testing plus...

DR. FALLON: Why don't you do a 100 at the bulk tank like they do in Europe?

SENATOR FLOREZ: How about we just not go there at all? How about we talk about pathogen testing and HACCP as a self-contained safety plan in the long-term that is more comprehensive, that, in essence, gets to the issue? And it really struck me as not testing at the monitoring stage but gets us to some test that gives, I think, the consumer what they really care about—pathogens? Right? And it doesn't take away some of the live microbes and things that you have been mentioning that are helpful. I think at the end of the day, it's a different product. That's why people drink it. It has the different properties. These are the things we want to keep, not destroy. And I

think science has moved much further than we have in terms of coliforms. So, I'm totally with you there as someone who's looking at this. I'm just trying to figure out, from a food safety point of view, a better test, at the end of the day, that gets us to a standard.

DR. BEALS: And we've agreed on that.

SENATOR FLOREZ: I hope anyone doesn't think we're going to repeal the bill just to repeal a bill because we're not. We need standards...

DR. BEALS: Well, the pathogen testing should be enough.

SENATOR FLOREZ: Right. We're not going back to the way it was, so we're actually getting to a stronger standard. And after we're done with this stronger standard, then we're going to turn to the pasteurized industry and make them do the same.

DR. IRONS: And, Senator, in the process of looking at your HACCP, until you actually get down and do the critical analysis...

SENATOR FLOREZ: You mean, go to the farm.

DR. IRONS: And go to the farm and actually look at it and work with the farmers and work with the scientists and work with the safety people and actually look at a really good risk analysis, critical point, it may very well be that you determine that there are some monitors in there that aren't present at the present time. It wouldn't surprise me if in doing that....one of the things that we look at in medicine is that in a HACCP plan you can push risk analysis to the point where it is at the detriment of the patient. You cannot put in place a HACCP control point which has the effect of taking away the benefit of what you're trying to reduce the risk of. And as a result of that, I think it may very well be that if you hold that mind....if you have that concept up there when you're doing that, that, in fact, you can come up with a very good one and it would be a revolutionary process for the state of California to do as a model for the rest of the country. I think that would be just excellent. It

might very well be that you do a monitor for beneficial bacteria to make sure that you are not destroying them.

SENATOR FLOREZ: I like that. Actually, I think, that would be a good....Mark, I think that's a very good point.

So, I think I've heard pieces of it and I think we have enough, after going through the transcript again, to try to figure out what we need to do. And I don't envy anyone reading Mr. Iron's rendition in the transcript. There will be a few pages there that we might gloss over very quickly in terms of the exactness of it.

But let me ask you as a favor, having given this good testimony, that you're some of the brightest minds in the country and the world, quite frankly, from all over. I would ask you to, beyond fighting the fight, if you will, about pasteurized milk versus raw milk, I would encourage you to conference call with each other, if you could, and produce a bill for Senator Vincent and I that is stronger than the current bill that the Governor signed and isn't specific in the sole test.

I mean, it kind of reminds me, in just listening up this point, that the pasteurized folks say, "We have the kill step so therefore all is safe." And at least the test that's applied to the current raw milk dairies in California, if we just had the coliform under ten then all is safe. I'm really not quite sure the consumers, unless it's pathogen testing, feel safe.

And so, I'm kind of asking you to go a step further for us and think about how, if you will, Organic Pastures and Claravale could be the leaders in the nation for the safest raw milk producers in the country. Because that's what we do in the Legislature here; we always try to have the highest standards, and I know it drives a lot of my colleagues crazy, because why does California always need to be the lead in clean air and be the lead in global warming or be the lead in....but that's what we do here in this legislature. And we don't go backwards either. So we're not going to look at 1735 and say it just needs to be repealed and, therefore, we kind of go back to what we were doing.

If anything, this has enlightened myself and Senator Vincent and members of this group, that we have to take this as a challenge and ask ourselves whether or not we can create a standard that other folks in other parts of the nation can look at and ultimately say California kind of got it right. They actually recognized that there was some positive aspects of raw milk that are beneficial; that they're not boiling them away; that they recognize that HACCP has to be part of the long-term solution, as been mentioned by the last panel. And you heard me give the analogy—if you had to pick, is it coliform at ten or is a good strong HACCP verified plan that everyone can live up to but at the same time working with our producers? I mean, they know their farms very well and it doesn't give me confidence when people on the panel talk about, if you will, HACCP and say, "But I've never been to one in California," or, "I've been to the ones in Europe," or, "I've never actually been on a farm." So we actually have to work together to bring those folks there. And you've got to work with the producers.

I can tell you that agriculture has a lot of sway in this building, as Senator Vincent knows. And whether it's leafy greens or whether it's any other agricultural product, here's how it normally goes for legislators. And that is, let us decide the standards. You guys don't know anything about farming. And guess what? We always let them. And when something bad goes wrong, when something really bad happens, then we go back and say, "Well, what happened?" "We ought to mandate and regulate you." And they say, "No, no, no. We're going to create a marketing board and we'll regulate ourselves but we still are going to produce standards." And when that goes wrong, then we go back to the Legislature and say, "Well, now what?" And they always tell us, "Don't worry about it. We'll take care of it." That isn't the process here with raw milk dairies. It's straight from the government, to the farm, to the bulk tank, at ten; do it or you're done. And I've never seen that kind of process happen in agriculture and it's simply because our raw milk dairies don't

have the political clout that the other industries have in this building. So, you know, we're trying to even the playing field a bit here. We're trying to allow the raw milk dairies to have a little political clout but at the same time we're challenging them to live up to what agriculture has done.

And I congratulate agriculture a bit on getting to HACCP in leafy greens. Guess what? It took how many outbreaks? Twenty-one outbreaks of E-coli in leafy greens—21 outbreaks. Two-hundred people injured the last time and three children dead for the industry to say, "You know what? We think we're going to implement HACCP now for real this time."

That isn't the case with raw milk at this point in time. We are literally saying we're not giving you the opportunity to even do HACCP. We're going to give you one test and you better pass it, and if you don't you're not going to be in business.

So, I think we jumped huge. I mean, you jumped from where I would want to be with leafy greens, quite frankly. You don't pass these, you're out. You can't be in the Leafy Green Marketing Agreement; you can't sell leafy greens in California.

But McAfee Dairies and Claravale don't have the political clout that the leafy green industry does in Salinas Valley or the rest of the state of California. So, please, come up with some legislation for us.

DR. BEALS: May I make one more remark?

SENATOR FLOREZ: Yes. Is it regarding legislation?

DR. BEALS: Yes. I've been to over 1,000 farms in the last 40 years all over the world. And other than in Finland, the McAfee Farm is the best I've seen, the best in the United States, absolutely. They have their own HACCP procedure, so it's like they've already set the standard in this country.

SENATOR FLOREZ: And guess what? Nine times out of ten the best producers in any of the agricultural products, whether they be leafy

greens or whatever, lettuce, those producers always are the ones that have their own HACCP plans and they've already been implementing it. And the last panel comes up and they say, well, they need veterinarians around; they need people to live on the farm; they need to be stewards of the land. I'm going, "Yeah, that kind of explains the dairy that I've seen." And so, it doesn't seem like a very big jump to then work with the industry, the raw milk industry, to create and allow them the first shot at their own HACCP plans, because we allow every other industry the ability to look at their operations from a critical point and come up with their HACCP plans and then it's really for us to judge whether or not they're safe or not. It's not the other way around—here's your HACCP plan Mr. McAfee. Implement it or we're going back to ten coliforms at the bulk tank.

So, I think that's kind of the dialogue that we'd like to have but we can't have that unless you provide us with some documentation.

DR. IRONS: Are you suggesting we provide bill language both for raw milk dairies and for conventional dairies regarding their HACCP program?

SENATOR FLOREZ: Well, that would probably get the regular dairy industry support for your bill first. But, no. I would say....and I think you're absolutely right on. I mean, I think, at the end of the day, if we're going to ask....here's the way I look at it. If you're going to ask pasteurized dairies to be at ten coliform after pasteurization and then look at raw dairies and say be at ten coliform without pasteurization, even though you're killing the things that you need, I think it's an unfair test. But if we're going to be different, then we ought to be different. The HACCP plan for raw milk dairies has to be completely different than any other plan. It has to be unique to the operation. It has to recognize all of the types of things that are important for the dairy to operate but at the same time produce a better test. And a pathogen test is at the end of the process is something we can do, then look, if McAfee Dairy, Claravale are

paying into the bulk milk fund and yet receive no benefit, then why wouldn't we have them use that money they use every month to pay in the bulk fund to do more pathogen testing at a much better rate and be safer at the end of the day? I mean, that seems to be a much better, more logical way to deal with this. But guess what? The last panel is telling me you can't test it. The test is out of reach. It never can happen. You're going to hold milk for a long time. It's not going to be profitable because you're slowing down the shelf life (to me that's what it's saying). Then you need to provide us with the test and tell us what we can do and how we can require our raw milk dairies to be out from under the Milk Pool completely, since they're getting no benefit from it, and using that money to get better testing, better HACCP and better pathogen testing. That seems to me, the appropriate tradeoff.

So, I'll challenge you to do that, if I could. I appreciate the testimony.

We're almost at four hours. And this has been great. I mean, just to let you know, if we started at three, it would be an early evening. So, it's also our fault here in the Legislature. So, thank you all for being here and we appreciate the testimony.

SENATOR VINCENT: I want to say one thing before you leave. It's going to be very short. Somebody mentioned Wisconsin. Somebody mentioned Michigan. And I told you about the Iowa Big Ten. So when you mentioned Michigan, I thought about Tommy Harman and _____. When you mentioned Wisconsin I thought about Alan Amichi(?). So what I'm saying to you now is this; let's stop talking and start acting. Let's start doing this. You guys get the information and we'll carry the ball.

SENATOR FLOREZ: Thank you very much.

DR. BEALS: I will make a personal commitment to do whatever I can to work with you. The nation is actually looking at California at this

moment and I think that it is worth every bit of energy that we can put in to it.

SENATOR FLOREZ: And I agree. And let us pull you together for a conference call. We will take responsibility for doing that.

Thank you all for joining us. We appreciate it.

Panel-4, Mark McAfee, Founder, Organic Pastures Dairy; and Dr. Ron Garthwaite, Owner of Claravale Farms. Thank you both for joining us.

We're just about in the third-quarter in this, so hang in there with us, okay?

Thanks for joining us. Okay, let's go ahead and begin Panel-4 which is our California Raw Milk Producers. And I'd like to start with any of you would like to go first and then we'll ask some questions; and then we'll turn to our retailers; and then we'll take public comment.

MARK MCAFEE: Well, I'm very proud to present the oldest American raw milk brand in Claravale Dairy being represented by Collette Cassidy. Ron is not here today. But the oldest American brand of raw milk is still alive from 1927 and she's going to have some brief remarks. And I'll close and try to get everybody out of here early, or before too long. We have a lot of people who have left along with small children and stuff.

SENATOR FLOREZ: Sure. Please do not rush your testimony, though, because you probably are going to have one chance to get this on the record. And Senator Vincent knows it's very important to get the record right.

MR. MCAFEE: Thank you.

COLLETTE CASSIDY: So, my name is Collette Cassidy and my husband, Ron Garthwaite, and I are the owners of Claravale Farm. He had to stay at home today. We were expecting a big shipment of bottles, so....He said it wouldn't happen if he wasn't there. He doesn't really like politics much either.

But anyway, so we are the owners of Claravale Farm, one of two raw milk dairies in the state of California. I prepared this statement. It seems a little bit dated, Mr. Chairman, since you just summarized everything before, but I'm going to go ahead for the record and read it.

We believe that the coliform standard as it applies to raw milk should be eliminated. The ten coliform level was originally created as a test for how the pasteurizer in a large dairy is working. Milk, after it's pasteurized, should not have any bacteria growing in it—it should be sterile. If it's not, you have a problem with your pasteurizer. We, on the other hand, do not produce sterile milk, nor do our customers want that. We operate under a completely different paradigm. We're a different industry altogether. We are not industrialized milk and, therefore, the same standards are not applicable.

There was a time when most milk in the U.S. was produced locally on small dairies and consumed raw. Our farm, Claravale Dairy, descends directly from that period. Since it was first founded in 1927 by Ken Peak, Claravale Dairy has been continuously producing raw milk and cream. Claravale Dairy is the only existing dairy which has a direct line to this era in dairying and which continues to produce raw milk using these time honored techniques. Throughout its 80-year history, Claravale Farm has remained small by choice, averaging about 50 cows. Today we're milking about 60.

Our milk is sold raw, but that's only part of a larger philosophy. Claravale Farm produces 100 percent natural milk of the highest quality possible. We do not pasteurize our milk, but we also do not homogenize it, fortify it, or standardize it. We add nothing to it and take nothing out of it. We also use nothing but Jersey cows, which produce the highest quality milk of all the dairy breeds. Actually, back in the day when people knew the difference between the different breeds, they called the milk from Jerseys "table milk," because that was what they used on the dinner table, and everything else was fed to the livestock.

In addition, because milk is a highly perishable product, we take great effort to get it to our customers quickly. Some of our milk reaches our customers in stores within hours of coming out of the cow.

While Claravale Dairy was the most mundane thing when Ken Peak founded it, there being thousands of small raw milk dairies in existence, through time it has become an anomaly, as all of the other raw milk dairies have gone out of business. For a period of time Claravale was the only raw milk dairy in the state. It was an anomaly with a ready market, however.

Ken Peak had reduced the size of his dairy by choice. When we brought the milk into stores, we found a large and eager market. People wanted raw milk but had been unable to find it. Since we bought the dairy, we have not been able to come anywhere near keeping up with the demand. Even now, at 60 milking cows, we have without solicitation or advertising, demand for at least twice what we produce. I would say it's getting to near three times what we produce.

Throughout our eleven-year stewardship of this dairy, we have never had a public health issue. That is, no pathogens have ever been found in our products. According to Ken Peak, none were found when he ran the dairy either. That adds up to an eighty-year history of safe, cleanly produced raw milk.

Throughout these 80 years, the dairy has been operating under the CDFA regulations pertaining to raw milk producers prior to the January 2008 modifications. These existing regulations are quite extensive and elegantly designed and do an excellent job of ensuring public safety. To our knowledge, no food is as extensively regulated and tested as raw milk, including foods which have a much less perfect safety history than ours.

Our milk is tested for cleanliness, sediment, total bacterial levels, constituents, cow health, antibiotics, preservatives, dilution and specifically for all of the possible pathogens. In addition, our cows are

regularly tested for diseases that they may carry which humans could contract. This rigorous testing protocol ensures that raw milk in California is one of the safest foods you can eat.

Back in November after AB 1735 was passed, our customers told us that the CDFA told them that we were in favor of that bill. They said that since we didn't say anything against it, we must be for it. Of course, we didn't say anything against it because we, like everyone else, knew nothing about it. We didn't inform them that we were against it because they never informed us of its existence. If it hadn't been for Mark McAfee reading a mention of the new coliform regulation email, we would not have known about the new regulation until we got a letter from the CDFA shutting us down. (this is the part that is dated, I think) We would never have known that we were under a new testing regime.

We recently completed a new dairy facility at the cost of over a million dollars, which doesn't buy you much these days. But anyway, the CDFA was entirely aware of this since we have to submit plans to them and let them inspect the facility during construction. Had they informed us of this new regulation, we may have decided not to build at all, or we may have decided to construct it to produce products other than raw milk. It's inconceivable to us how a state department that regulates us, tests and inspects us regularly and issues us permits to operate can introduce a bill that they know, from their own numbers, will put us out of business. The CDFA knew that we were building a new facility, and yet, remained silent about the new regulation.

Steven Beam, who works with the CDFA, his assertion that we can pass this regulation based on the numbers from our history of testing may work when he's talking to legislators or to people other than ourselves, but we have those same numbers and know that we can't. I suggested to him outside of the courtroom a few weeks ago that we get together with a spreadsheet that we have and the numbers that he has and we'll take a look at how he thinks we already comply and why we see

that we would never be able to consistently meet the less than ten coliform standard. There was a roundtable meeting coming up of the stakeholders regarding this issue and we thought we'd be able to do that then. The meeting was cancelled right after that conversation.

We believe the coliform standard as it applies to raw milk should be eliminated for the following reasons. This regulation adds nothing to the existing testing protocol of the CDFA that is not already covered by other tests. There is a full suite of tests to test for pathogens and this adds no additional information and is thus unnecessary. It is not the function of the government to instigate unnecessary regulations whether they can be met or not.

The coliform regulation is not consistently attainable and will put us and other raw milk producers out of business.

Finally, the regulation was developed and promoted based on seriously flawed information. As I stated previously, California's existing regulations concerning raw milk are quite complete and more extensive than the testing protocols for any other food. Since these existing regulations include regular specific tests for all pertinent pathogens, including pathogenic coliform, they offer an absolute safety screen total coliform count, adds no additional data pertinent to public safety and, in fact, available data suggests that total coliform count is in no way correlated to pathogens, making it a worse than useless measure and that it may give a false sense of security.

The old regulations were and are more than adequate to protect the public safety and we have been producing safe and delicious milk for over 80 years under those regulations.

The state has not been able to shut us down with these regulations not because the regulations are insufficient but because our product is clean and safe.

The less than ten coliform per milliliter regulation that is applied to pasteurized milk is used to test for the proper operation of the

pasteurizer. The application of this standard to raw milk, which is not pasteurized, is arbitrary and meaningless. The regulation seems to be solely for the purpose of limiting the raw milk industry in the state to an insignificant level that would be entirely inadequate to meet the demands of the people of California for raw milk.

Beyond being useless, the new coliform regulation may actually be harmful. Data exists which strongly suggests that coliform bacteria actually inhibit pathogens in raw milk, thus eliminating coliform from milk may allow for the growth of pathogens and actually make raw milk dangerous.

In advancing AB 1735, the CDFA has given the impression that the less than ten per ml coliform standard is applied in other states and that we are already in compliance with this regulation. The information presented in support of AB 1735 concerning this situation in other states was misleading as the state cited either did not have the ten coliform standard, did not have a raw milk industry, or the actual data on coliform levels in raw milk are unavailable or conflicting. In fact, we know of no one in California or the West who needs these standards consistently enough to bottle raw milk under the new standards.

What is going on here is going on around the country and the world where big producers are not able to produce the kind of milk we do and, therefore, have to create some hysteria of a public health issue in order to eliminate small producers like ourselves. Just yesterday, I came across an article about a small producer of camembert cheese in France. That cheese has traditionally been made with raw milk. It's what gives it its unique flavor. The industrial dairy firms tried to change the regulations, saying that the use of raw milk was a health risk so they could use their own processed milk and still call it camembert. The industrial dairy firms lost that battle.

Prior to the last hearing before the Assembly Agriculture Committee, I naively thought that we were not much of a concern to big

dairy. But when they came out with their testimony and the testimony of their scientist, I realized that, in fact, they do not want us to co-exist. They said something like; we were a tenth of one percent of the industry and yet caused 99 percent of food-borne illness.

The milk industry cites cases within their own industry where the raw milk was improperly pasteurized and people got sick and then make the jump that it is a raw milk problem.

While the CDFA would very much like to ban the sale of raw milk outright, it knows that this would be impossible to accomplish. The tact that has taken instead, is to create a false hysteria around the product concerning public health and then to hobble the industry with unnecessary regulations designed to keep raw milk production at a low and insignificant level. While the CDFA will then be able to say that raw milk is legal, because technically it will be, it will not be possible to legally produce it on a scale that will come near to fulfilling the demand for raw milk in California.

And then to summarize: I think that prior to AB 1735 there was not a problem to fix and now as we've all been discussing in this hearing, there certainly is. If we do not return to the way the regulations were and if AB 1735 is enforced, we will go out of business. We were just one test away from that happening when we got a restraining order against enforcement. We used the court to do that not because we relish litigation, but because we needed to protect ourselves.

This is a serious health situation for our customers, many of whom you have already heard from. Our customer base is well informed and knows exactly what they are buying. We do not have people that randomly buy our products.

We strongly urge you to adopt new legislation that will protect the health and choice of these customers and our right to operate our business and produce this clean and safe product.

Thank you very much for your time and attention.

SENATOR FLOREZ: Thank you.

MARK MCAFEE: My name is Mark McAfee. Good evening, Dean and Honorable Senators and committee members, of which some are present and not all. But I'm glad that we're creating a great record here. It's very important.

I'm the founder of Organic Pastures Dairy which is located in Fresno, California. I have a summary of my statement that I want to make, but I also wanted to present into evidence this afternoon, a statement by Joseph Heckman, Ph.D. from Rutgers University who strongly supports the production of safe raw milk and who was not able to attend to day but has some very, very compelling arguments which you have in a summary of the information you have before you.

Also, I'd like to submit officially, a statement from Dr. Katerina Berg, who is a doctor of veterinary medicine, Ph.D.; who is a graduate and Ph.D. from UC Davis; who knows all the experts that were sitting at the table earlier; who has moved out of state and now resides in Washington; who has done primary research, including doing reckless swabs on all of our cows at Organic Pastures Dairy to find that there was no pathogens present. And she has a very compelling statement she's made, also, about raw milk. And I want to submit that also, as well, into evidence.

I have a statement from Dr. Tim Chapman, who is an M.D.; that's being submitted as well, and their curriculum vitae which are very compelling. I think it's very important to read that. You won't be reading it this evening, but it's just important to have had that submitted.

SENATOR FLOREZ: Let's make sure we have that for the transcript and also the statement by Claravale Dairy as well. I want to make sure that's transcribed. Even with your notes on it.

MS. CASSIDY: Even with my notes on it.

SENATOR FLOREZ: Why don't we do this; why don't we get a copy of that, Ken, and then we'll get it right back to you. Thank you. We'll delete any sort of missives about...

MS. CASSIDY: Don't look at the things I crossed out.

SENATOR FLOREZ: Mr. McAfee, go ahead.

MR. MCAFEE: I'd like to start by thanking the consumers who lasted today to be here. And they dwindled in numbers but not in heart. And we thank them for bringing their children and being here.

I have a couple of things that I'd like to state just before I start my formal comments. And one is, that it's very weird, this whole thing has just been strange to me, seeing Dr. Linda Harris sitting up here in front of us today is a flashback to 1996.

In 1996, you remember the Odwalla incident that killed a child in Colorado and put 19 children in ICUs. And it was just a free-for-all trying to figure out what happened with raw apple juice in _____. And I was part of that.

After the incident, I went to Odwalla and Artie Manga(?) and I said, "You guys are in trouble and I'm going to help you because I'm in trouble too. I just lost my entire apple market in Hong Kong. And I need to help you guys out." And they said, "We need your help."

So, we fixed part of the food chain. And I developed the first HACCP program for field production of apples. And Dr. Jeff Farrar, who wasn't here today, actually went and visited our farm. And I got an award for that. I was the first farmer in the United States of America to have a HACCP certificate from Chapman University. And actually put together a HACCP program for field production of apples to go to Odwalla. And actually helped settle a lot of their problems with the attorney general and so on and so forth.

So, when they were talking about HACCP, and for those of you who don't know what HACCP is, it's Hazard Analysis Critical Control Points, which was developed as a HACCP program back in the sixties to keep

astronauts from getting sick from food up in space because there's no doctor to attend to them and they didn't want to have astronauts getting sick in space. So I'm very familiar with HACCP. In fact, I've got eleven binders that I created a HACCP program that won an award for the field production of apples. It doesn't pertain to raw milk, particularly, but it certainly pertains to the issue today. And it was just weird to have this be a turn of fate 12 years later, to be talking about HACCP again, because we do a lot of that at Organic Pastures Dairy now. We have written SSOPs. Although there is no kill step in critical control points, we do have critical control points, one of them being pathogen testing. We do a lot of pathogen testing.

So, I want the Board to feel, and the Committee to feel, that I'm very comfortable with HACCP in its basic structure form and get rid of all the gobbledy-gook, as Dr. Ron Hull said, and you get down to some very good fundamental checks and balances where you can actually make a big impact in the quality of the end product.

And I would be supportive of a program that would include a HACCP program in its fundamental basics so we can tie all the strings together in terms of SSOPs and CCPs and make a program that would work that would be simple enough that people could follow that really was practical. So, I support that and I encourage that and I would not fear that. So, I want you to know that.

I would also like to make a brief remark about the state of Washington. In the state of Washington they allow hand capping of their raw milk directly from the bulk tank and they do not have other products for retail sale other than whole raw milk. And the ten coliform testing that they do there has failed miserably on their cow milk dairies. But you've got to look at the list of all the dairies, 75 percent of those dairies are goat milk dairies.

Now, goats have hard manure, there's no sloppy manure around and it's a lot easier to have sanitation in an environment where the

pebbles come out of the back end versus sloppy manure. So, the cows have a heck of a time passing the ten coliform test. And, in fact, we've had a hard time getting the data from the state of Washington because some of the producers are not passing, statistically, the test that they say, and I won't go over that, but it's interesting to note that the devil is in the details and when you look at the details, the devil is apparent. So just be aware that some things that are said are not actually statistically correct.

Another very important point to make is Altadena did have the ten or less coliform standard back in the sixties, seventies and eighties. They had pathogens all over the place. I wouldn't want to exaggerate, but pathogens were found routinely in their milk, and salmonella was one of the pathogens we've never had in our raw milk ever and neither has Claravale.

It's essential to know that it's not the level of the coliform; it's the kind of the environment and the kind of the bacteria you're dealing with.

And I'll make a note here: I turned these two posters around so that you've been appreciating this sight for the last three hours but our audience has not seen the pictures. On the left there, that's a picture of an award winning conventional dairy located within a mile of my dairy just on Lincoln Avenue. I won't mention the name. But it's certainly not a clean environment. And those cows are absolutely filthy, and that is an award winning, top 100 dairies here in California that has a very, very high standards.

To my right, is Organic Pastures Dairy, pretty much any day of the year. We have a mobile milk barn and the green grass pastures and sun drenched environments and you can't compare these two posters.

I would take that same paradigm and say, you can't compare raw milk from Organic Pastures Dairy or Claravale to any conventional milk in California because it is a completely separate product in its entire food chain parallel by parallel from the cows all the way to the consumers—

different immune systems, different production standards, different everything. And I don't want to go into the gruesome details, but completely different food, different processes, different testing, different regulation, different labeling, everything and different statistics, as well.

So, low coliforms do not mean zero pathogens and pathogens is what we're after today. And I think we've demonstrated by saying that Altadena had a heck of problem with pathogens with a ten coliform count.

The other thing that I want to say at the outset before I go into my remarks, is that we are not looking for perfect food here, guys. We are looking for a very, very high level of assurance of safety. I think that, and it's been shown, not just my thoughts, but the pasteurized industry has said, as a guarantee of pasteurization, that it's going to make things safe.

We saw three deaths in the last twelve months from pasteurized milk that came from Whittier Dairy, which was an award winning dairy in Massachusetts. We've seen literally hundreds of thousands of people sick in the last 20 years from multiple recalls (and I would send you to this document here to actually have the annotations of those outbreaks and those recalls). So, pasteurization is not perfect. It may do a good job of taking care of that food, which certainly it's going to be around for a while, but it is not a panacea of perfection. Neither is raw milk. They both have risks.

Our job here today, my job as a responsible organic raw milk dairyman, is to limit those risks to as close to zero as possible. I will say, in eight years of pathogen testing, we have yet to find in the state of California or FDA or the Fresno County Health Department, or DHS has yet to find, one pathogen in any of our whole raw milk. Yes, a pathogen was found in some cream we purchased from Clover _____ in northern California. It came off a pasteurization plant. But it was raw cream—excess production.

I made a big mistake and I bought 330 gallons of raw cream (it's illegal to do so) and made it into butter because our consumers were screaming for raw butter from organic sources. Neither Claravale nor ourselves have that extra milk to skim, so I got some cream and lo and behold, guess what? That plant gave me a hot batch with some listeria that detected after six days. That's the truth. No other pathogens have ever been found in our raw milk. Banning any kind of level of coliforms, there's been no pathogens.

And I, really, my jaw hits the glass of this table when I hear Dr. Payne saying that pathogens are found; it's simply a false statement. Ask CDFA. I wish they were here today. They would tell you otherwise. He's just not informed.

My remarks are: It's been said that change and truth goes through three stages. First, it's ridiculed; then it's violently opposed; and then finally, it's accepted as self-evident. Well, it appears that raw milk is going through those three steps and it's someplace between being ridiculed and being violently opposed right now. But after these proceedings and hopefully some times passes, we hope that it becomes self-evident that it's just different food and it can be done safely—very safely. In fact, it can be done so safely that it's one of the safer foods when it's done correctly.

Raw milk consumers of California and raw milk producers of California, we deserve two things; the highest standards for raw milk that lead the world, because everybody is looking to what California is doing. There's a big breath being held right now for what you, Dean, and others are going to do here because they're looking for leadership and right now there isn't a lot; and we're looking for that ourselves.

We also need fair market rules that are fair and treat raw milk as a separate food because it is far different than pasteurized milk or its sources. These two things don't presently exist in California. California is

an industrial leader, and agricultural leader and we need to set the standard for the world to follow.

Throughout all time, humans that had access to safe natural raw milk were the survivors of plague and famine. Humans would starve without its nourishment. There was not a settler in the thirteen colonies that did not pray for the health and survival of the family cow as the health of the family cow and their family would follow. If the cow died, so many times the health of the family or the community and the security would follow as well.

Cows provided a source of revenue and food for all. Lest we not forget that when the cows died, the Donner Party started to eat one another.

Beginning about 150 years ago, the early American settlers began to concentrate their populations in cities and began to....there was a problem called the Milk Problem. Cows were brought to the cities with the settlers; started not to graze on green grass pastures, but rather they were fed brewers distillers grains and started to have all kinds of problems.

Now, you just imagine back 150 years ago; no flushing toilets, no sanitation, no hot water, no stainless steel, no closed milking systems, open pails of milk, flies everywhere. Dead horses were a big problem. They had to get horses off the streets that would die. Manure everywhere. In the night, people would throw their waste out of the window and the next morning you would see it all over the streets. It was a putrid mess. Those that had money would leave the cities when it got a little bit warm and went out to the fresh air and fresh milk with the rolling pastures 50 miles away. Those that didn't stayed there and became ill.

The raw milk that was produced had pathogens all the time—TB, Brucellosis, typhoid, you name it. And it communicated diseases to many children. Over the time, 25 percent of those children that drank that milk died.

From 1900 forward, a man by the name of Straus invented power boiling which was the early name for pasteurization. And power boiling neutralized some of those problems and reduced the death. Not to zero, but reduced it significantly. And he was heralded as....literally, he would have been a Nobel Peace Prize winner if the Nobel Prize had been around then. And it was really heralded as a breakthrough. It did something else; it extended shelf life of milk. It decreased liability and it was a homerun. But what it did was, it excused filthy milk practices, excused the problems that they had.

But with the advent of the car, cleaning up the streets, running water, closed milking systems, technology, testing, certified raw milk took off and they ran in parallel for many, many years. There was certified raw milk, which physicians strongly encouraged their children to drink, and there was pasteurized milk. About 1940 that all changed with the Industrial Revolution and there weren't too many farm boys to milk cows. They had to go fight in the war. And we needed to feed the world. There was less and less interest in safety. There was just more and more kill it; send it off; make it into whatever processed product. And so there was an evolution that took place. And Altadena Dairy was the last of that breed of the certified raw milk.

We are a new breed of generation here. We are Grade-A raw milk intended for human consumption. And we're looking to you for good leadership to go forward, to actually lead ourselves forward, into this necessary wonderful biodiverse, enzyme rich, nutritious food that consumers are relying upon.

Today, we see remnants of those years 120 years ago with modern dairy creameries seeking to extend shelf life more and more as they can and render pathogens safe, obviously, in the milk. There are immeasurable pathogens in milk tanks in California and bulk milk tanks.

Now, Collette and myself represent two raw milk dairies. We are the only dairies in California that produce raw milk that are inspected by the state of California. There are 1,900 conventional milk dairies, so we are very, very small and we don't have much political clout. What we do have is consumers that love us and we have Rusty. We do have Rusty and Curt. But the bottom line is, we have the consumers and we have the will and desire and we aren't going away.

Unfortunately, the consumers' voices have been lost. And advanced science and their physiological needs have not been met. This modern science based dairy technology _____ resulting pasteurization, homogenization, standardization, fortification is highly allergenic and causes lactose intolerance in about 30 percent of the population. Pasteurized milk is listed as a third most allergenic food in the American diet. Pasteurized milk quite often triggers asthma and has been deleted from the diets of most asthmatics by their doctors. Many children become violently ill when they drink pasteurized milk but yet they thrive on raw milk. One must always remember that breast milk is raw milk; it is not pasteurized, and that's there for a reason and we really have to ponder that question in our minds.

We've arrived at a crossroads, literally, for food in America. Something is broken. Consumers have discovered raw milk as a part of a bigger solution, a prevention solution. The building of American's immune systems is something they've acknowledged and something that they embrace.

You, our elected representatives, must act to preserve our rights of choice. In the recent past, the FDA has flat out refused to join any discussion of raw milk saying it was a "non-discussion item." This refusal is not an open-minded look at new data or progressive notion. It hurts us all. It's just not good.

The FDA has taken the legal position that only drugs cure disease. We, as consumers, oppose this legal construct and believe that whole natural foods can prevent disease and avoid getting sick entirely.

The FDA will actually fine anyone that makes this claim. Making any claim or even posting an email on the internet saying that whole foods can prevent a disease is a crime. In fact, I was subject to a \$4,000 fine by the Department of Health Services which I've paid because I posted an email from a mother on our website that said her child had been relieved of her asthma. I paid a \$4,000 fine for that, and it is a crime.

As consumers, we reject this concept outright. It is false. It is leading to a wholesale destruction of health in America. We don't have to look very far to see terrible mountains of epidemiology. Just, what's going on with the autism at every 150 children? What's going on with asthma in one of every five children in Fresno County? What's going on with diabetes and asthma and arthritis and all these autoimmune diseases? This is not the natural course of history. We should be progressing as humans. It's a disaster.

The consumers that are sitting in this audience, and the thousands that could not be here, today know better. And they know that prevention is in nutrition. And nutrition embraces whole foods as the remedy.

When raw milk is raised 100 percent naturally, green grass pastures without immune destroying antibiotics and hormones is extremely safe. (The poster on the right hand side is what we're talking about here)

You go to Pennsylvania and you'll find 120 raw milk dairies and the average cow dairy size is 20. These are pets. They take meticulous care of their cows. And the milk that they produce creates a lot of revenue for these small farmers.

Statistics show this to be true. It is not the raw milk of factory farms that is intended for pasteurization, this is the raw milks that's tested, regulated, labeled and never commingled with multiple sources. It is farm direct from one source to the consumer. That's where the problem begins. That's where the challenges begin.

Raw milk intended for direct human consumption is completely different than factory farm milk that's intended for pasteurization. This is the crux of the problem. The regulators and the government agencies zealously deny that there is any difference and try as they might to force the same regulations on both kinds of milk. That is a serious, big time red button right there. This does not work.

Ask anybody who visits our dairy and they'll tell you that they can recognize the difference between our dairies and other dairies very quickly. They're drenched in sunshine. Cows are perpetually on a green grass pasture. Raw milk for pasteurization contains pathogens and must be pasteurized. Raw milk for human consumption is tested and produced differently and shown to be extremely safe.

In modern day, consumers are often promised 100 percent safety and assurance of perfection in our food systems. This is not a true commitment. It does not reflect true reality.

Award winning, properly passed pasteurized milk killed three people in Massachusetts just a few months ago, yet pasteurization, at it's very basis is a promise of food safety and it's not. There have been uncounted numbers of food-borne illnesses and outbreaks related to pasteurized dairy products, some making as many as 197,000 people sick in 1993; and 14 deaths out of 49 people sickened from improperly pasteurized cheese in the 1980s. And there are many, many other outbreaks to talk about, as well.

None of these illnesses or deaths was caused by raw milk intended for human consumption; maybe raw milk that went to the pasteurizer that wasn't pasteurized, but that was intended for pasteurization not raw

milk from our dairies. And the data is commingled so it's impossible to see the true effect of what we're talking about here. So the CDC has an artificial number that doesn't reflect the actuality of what we're doing here in California, which has an impeccable safety history.

Raw milk producers never promise perfect food safety but this is not possible regardless of what process is used to secure our foods. Raw milk producers, instead, offer an assurance of a high level of security and safety. But raw milk producers can offer something far greater.

Raw milk producers can offer better health and a stronger immune system so that if a bad bug does come your way, you may not even know it. And that is a promise of perpetual sustainable prevention in health we don't have in this country. And that's a bright future that we saw wonderful consumers up here saying that they would do anything to get that right because they don't want to get sick to take a drug. They want to prevent it before it ever comes their way and it's based on the immune system. And raw milk is one of those beautiful foods that can do that for us.

It's been demonstrated well in the literature in the CDC data that farm families that drink raw milk that contains pathogens rarely ever become ill from those pathogens. They become immune to them. This tells us much about our culture that is driven by illness versus wellness; cure instead of prevention; immune depression instead of immune health. We are running scared of bacteria when they make up more than 90 percent of the human genome. That's right; just a small percentage of the human genome was found when scientists mapped the human genetic body—the structure. They only found a little bit. They found enough to make a gnat fly, that's what they said, which means now they have the human bacterial genome project actually find what makes us humans. We are bacterial sapiens but we deny it, we deny it wholly, and as a result, we are sterilizing our self.

Our antibiotic war against bacteria has now manifested itself in untold numbers of new epidemic diseases and immune depression. To sterilize our bacteria is to sterilize and kill us. Americans suffer a great bacterial deficiency. Doctors and pharmaceuticals have no desire to repair this broken paradigm (accept for some doctors). There is no incentive to do so to repair it. To prevent it, we lose a lot of money to a lot of rich people.

NASA has demonstrated that sterilized food cause disease in humans after prolonged consumption in space. Now our space program actually feeds fermented foods and probiotics that are high in bacteria and enzymes to our astronauts to avoid immune depression. They've gone one step beyond killing everything with HACCP in the 1960 and that said "Okay, we're going to do that but we're also going to give good bacteria to our astronauts."

This brings us all here today. We sit here before you and we want safe raw milk and we want good standards.

What's missing in America are raw fats, good fats with high omega threes and low ____ ratios, minerals that are available and absorbable, a biodiversity of hundreds of different kinds of bacteria that boost our immune systems and make us do our pushups every morning so we resist whatever our ecosystem brings our way. Rare and important enzymes are essential to health, including phosphotase, which is very politically sensitive thing to say but I'll tell you this, pasteurization assures the loss of phosphotase. Phosphotase is essential for the absorption of calcium. And if you have osteoporosis you can't get your calcium unless you have phosphotase. It's a pretty disturbing thing to say but it's the truth.

Coca-cola and Pepsi contain none of these things. Seven-Eleven sells none of these things either. These things only come directly from a trusted farmer.

Whole Foods has done a very good job of representing us and other stores have done as well, but it's a food chain that actually runs kind of disruptively against the current paradigm. Perhaps this is the reason why critical elements are missing in America. America is missing farmers that take the extra effort to shoulder responsibility of selling whole unprocessed foods directly to consumers. There's too much liability. You have to own too much of the food chain. There's too many things you have to know and understand.

In California, we've been protected from losing this sacred food and chain relationship because since the beginning of time we've had raw milk and it's been protected.

We're here today to assure that this new law is passed when we create it. And we're open-minded to invitation of the whole new untold story about to unfold.

I think that I would be very supportive of a reasonable coliform standard. I think Dr. Cullor said that 100 in the bulk tank is something that's acknowledged in Europe. I was shocked to hear 100,000 standard plate count. Claravale and us average 2- to 3,000. I don't know where they got the 100,000, it seems outrageously high. But certainly we exceed by quantum measures, the standards that are in Europe which he said were good standards. So I would be more than happy to take 100 in the bulk tank and our 15,000 bacteria count that we're currently under which is the level at which pasteurization must meet after pasteurization. And then, enhance the pathogen testing. And if there needs to be a basic HACCP model, I'd be more than happy to help develop that and to be very comfortable with it and I think other raw milk dairies would probably be comfortable as well.

Thank you very much.

SENATOR FLOREZ: Great. Let me ask just a couple of questions, if I could to both of you because you've heard me talk first from the first panel about their rendition of safety with raw milk. And I think you

heard that loud and clear that....I didn't say it and I didn't recommend that people not drink raw milk or eat raw milk, if you will. I think one thing I heard pretty loud and clear was that they were pretty caught in the dogma that's been mentioned about we'd rather err on the side of some standard that you may not meet and its comparison to a product that shouldn't be compared. So I don't really feel comfortable with the first panel's rendition. I'm more comfortable with the second panel's thought process of HACCP. I was very impressed with the earlier panels weighing of HACCP versus the coliform test altogether.

So let me ask you, since you're the folks who would have to implement this, and Mark, you've mentioned basically, and we're real key at listening to words here, so you kept saying "I'm kind of for the basic HACCP plan, and the basic aspect of it." I guess what I'm asking is, how do you get beyond basic? How do you get to world class? How do you get to a test that people could look at and say "I don't know how he does it and I don't know how he's producing but I've got to give up to McAfee Dairies because they created a world class HACCP plan that is not comparable to any other raw milk dairy in the country and that allows you, if you will, a range of coliforms if you want to use that test? I don't even know why we'd want to use it as an indicator. But from a pathogen point of view, are you willing to sit down with folks and try to figure out, ultimately, not a basic, but a world class, top of the line, HACCP plan?

MR. MCAFEE: I think your point is very well taken. I lived with HACCP for about four years and was inspected by Jeff Farrar and others and lived through all kinds of slings and arrows to make sure I knew what was going on. And what was a world class initially was boiled down to something that was functional and actually worked.

And Dr. Bob Stovichicek(?) was the Ph.D. that helped me actually develop this program. And what actually worked were some fundamentals. And we had a series of SSOPs we followed which were meticulously checked off all the time. And it was about supervising a

process is what it was. And in the end, I was always trying to add on these great things. I was going to make it just this awesome, awesome....because I wanted to just be the best. And I was too young and stupid for myself. I knew too much and I was going to be so excited. And he goes, “Mark, you’ve got to really calm down and make this thing basic because the true test of a HACCP program is whether you do it or not.”

SENATOR FLOREZ: Exactly. Who verifies, in your mind, a HACCP plan; even a basic HACCP plan?

MR. MCAFEE: There’s a couple of things with that. I think you need to have third-party auditing. It has to have third-party auditing.

SENATOR FLOREZ: Third-party auditing to you means? I know what it means to the Leafy Green Marketing Board; it means you hire the auditor. What does it mean to you? Is that the state or is that you hiring an independent auditor?

MR. MCAFEE: I believe it’s an independent auditor, not the state. And I think that the state would be empowered to check the critical control points. The pathogens, make sure that they’re not there. The total bacteria count, make sure it’s under the 15,000. They would check the endpoints of which your process produces. And that’s what I believe.

SENATOR FLOREZ: Okay.

MS. CASSIDY: I would be a lot more comfortable having Ron here to comment on that because he has much more to do with the day-to-day operation than I do. I know that he’s always said that prior to this whole deal with 1735, he’s always really trusted the CDFA and the kind of feedback that we’ve gotten from them; and has felt that it really couldn’t be improved upon—the way the regulations were.

SENATOR FLOREZ: I got you. Let me ask a question since you know the industry much better than I do. Connecticut at 50, Connecticut have HACCP?

MR. MCAFEE: No.

SENATOR FLOREZ: So how about California at 50 with HACCP and pathogen testing? It seems that we have the best program in the country, then, would you agree?

MR. MCAFEE: I would agree. But I would also say that if I had to sit down with the board that came with UC Davis to develop a HACCP plan, and in their minds they wanted to ban raw milk, it would be a horrible HACCP plan. If they wanted to enhance raw milk and actually look at the biodiversity in our environments and look at manure testing and other things that would need to be incorporated to understand what's going on, then it would be a very good HACCP plan. But it all has to do with the mindset of those that are actually sitting down at the table to define the plan.

SENATOR FLOREZ: The dogma.

MR. MCAFEE: Yes.

SENATOR FLOREZ: Okay. So let's look at other industries and how they have developed HACCP. And I'm sure it wasn't CDFA coming down and saying, "We know your industry better than you do so therefore here's our HACCP plan." Normally it comes from the bottom up and then it comes from some commission form or some sort of marketing agreement form and it comes from the folks that do it. So, you're the only two folks to do it. So at the end of the day, I think I would feel a bit...you're used to being singled out, but I would say that you're being singled out for not allowing yourselves to have that same opportunity that others in agriculture have had in terms of developing your own HACCP plan unique to your own unique product and your own unique processes and then having folks come in into, in essence, have a robust discussion about is it good; does it cover it; was it better than it was before? And I think any HACCP plan is going to be better than...if you don't have one it's going to be better than it was before. But I think there is a tradeoff also. Because I think if you develop a basic HACCP plan, and I'll use your term, Mark, then maybe 50 is the right standard

because you're doing a little more than we currently are by just trying to get a ten. And so, I would like you to think about that.

We'd like to work with you once we get the panel before you to kind of flush some of this out. But it seems to me that that standard is an improvement on the current bill that the Governor signed. It's an improvement because the coliform standards are higher; in a sense not ten but maybe 50, maybe a 100. But at the same time you have, as the first panel mentioned, an environment that gives us the indicators that we need, which is a HACCP plan that one could verify—check third-party. It gives us a more comprehensive approach to food safety, particularly in your industry that is driven by you. Does that work for both of you?

MS. CASSIDY: Well, I think the key thing is what you said about working together on it. I mean, right now we haven't had a long enough period to really develop data with this less than ten coliform. I mean, we are going on the data that we have from 2001 and that's where we see we would not be able to comply with that probably even at the 50 on a consistent basis.

SENATOR FLOREZ: Well, let's find the consistent basis then. I mean, we need to figure out with our experts what a balance is. I think, actually, if you have a good HACCP plan you don't worry about coliform at all. I just think you don't. And I don't think you want to worry about that. I think you want to worry about the end result of pathogens. So, I think we kind of get beyond this one-size-fits-all out of pasteurization is ten and under, and you guys are ten and under and yet you don't pasteurize. That doesn't make any sense to me. I don't think it should make sense to anyone if you have a better overall environment to control pathogens, which is a good basic HACCP plan.

This is just a direction I think we should continue to discuss this going forward. And are you guys open to that?

MR. MCAFEE: I am entirely.

MS. CASSIDY: Yes.

SENATOR FLOREZ: Okay.

MR. MCAFEE: I think there's one remarkable thing that might really help us appreciate this a little bit more. The environmental studies on creameries Dr. Ron Hull has in his presentation; there's information about it. Sixty percent of...I don't want to misstate his testimony; I may be wrong on this but from I what I remember, there was 60 percent of the creameries in Australia, in one of the studies, had a listeria in their environmental studies—not in the milk, but in the environmental studies in which the creamery processing plant had. We have yet to find a pathogen, ever, in our creamery in eight years of intensive testing. In fact, when the FDA came out one day to do a test, they did several hundred tests. They came back a week later and said, "We've got to retest. Something is wrong here," because they always find pathogens in pasteurized milk plants. They don't find them in our plants because we still have the organic acids in the cracks keeping the _____ out and the listeria out. So there's an entirely different set of concepts there. And the partners we need in this HACCP development program need to appreciate that because it's such a radically different food than what's in the big creamery. They always have a problem.

So the problem areas are different, therefore the SSOPs and CCPs are different. It's just a point.

SENATOR FLOREZ: Okay. So, we have some sense of a path of some work to do. Let me ask about the pathogen testing that was mentioned by the first panel—impossible; too long; expensive; can't be done; slow the process down; put people out of business, I mean, you're the people in business, does it put you out of business?

MR. MCAFEE: Pathogen testing is something we do, rapid testing—we have an eight-hour test at Organic Pastures Dairy. We do it several times a week. The state does it once a month. We do

E-coli 0157H7 four or five times a week. I don't think Claravale does that. They've done it a couple of times. But we do it in-house.

MS. CASSIDY: We don't do it in-house.

MR. MCAFEE: Okay. But you never had a pathogen in 87 years either.

MS. CASSIDY: Exactly.

MR. MCAFEE: But we're actually interested in investing in the Rapid B test from Litmus where you actually get all four pathogens tested within ten minutes.

SENATOR FLOREZ: And let me go further on that test that you're interested in. Currently you pay into the Milk Pool and I'm kind of thinking about how one pays for that particular higher level for testing; is that something....what's your thoughts on that so I can get that on the record?

MR. MCAFEE: If you produce more than 500 gallons per day currently you're exempted from the Milk Pool. We produce...

MS. CASSIDY: If you produce less than...

MR. MCAFEE: I'm sorry. Correct. Less than 500 gallons you're exempted from the Milk Pool. Every raw milk producer prior to this time was exempted from the Milk Pool. In fact, I think it's 62722, the Food Code, actually exempts certified raw milk producers. In 1969, it's kind of a weird sunset clause for the Gonzalvez Milk Pool Act which doesn't allow you to be exempted afterwards. And what I would beg, is to get out of the Milk Pool because I have to contribute \$10- to \$12,000 a month into the Milk Pool because I'm over 500 gallons a day and I can't buy one drop of milk from the Milk Pool or appreciate any value from it. So it would be much better for me to lease the Rapid-B Litmus program at \$3,000 a month and charge Claravale 500 bucks a month to come over and use it; and there you go, we've got a partnership on food safety and we just do a pro rata deal and you got pathogen testing in ten minutes all the time.

SENATOR FLOREZ: And I think in a revenue neutral world also, thinking about where we're at in the Legislature, and Senator Vincent and I both know the revenue constraints on the state, I think it would require that if we're going to ask you to do different types of testing, particularly on the pathogen side, that we find a way that allows you to pay for that. And if you're not getting any benefit from milk...it's at least something to discuss. And it's not to say that that would be something that would work, but I think it at least gives the members, I think, reassurance that you're actually going to do it because you have the money to do it because you're being relieved from one obligation to the next.

MR. MCAFEE: We want to do that. We're dedicating to doing that. I believe we need to find the needle in the haystack before anybody else does. I don't want to have somebody come to me, especially the FDA or CDFA, saying you made somebody sick. That's not something I ever want to see.

SENATOR FLOREZ: Okay. Let me just ask one more question. Just in your opinion, if you will, on CDFA not appearing today and what that signals to you given that...Have you had a face to face at a real legislative hearing on a bill with CDFA? What's your overall opinion of them not showing? I'd like your opinion, both of you.

MR. MCAFEE: Sure. I'm very disappointed they're not here today. I think they could have contributed a lot. I think you get through the emotion and the fight of the whole thing. You get rid of the whole dogma thing. I think they're a very invaluable participant in this discussion, as well as people in the FDA. I think that this needs to be brought up and needs to be discussed. I think the reasonable scientists are actually very friendly with one another. It could do a good job of bridging the gap here.

I think there's the dogma side which has the old rhetoric and not looking at the green pastures over here or the clean....and the technologies and stuff and the true numbers and they try to commingle

numbers where you get into this hazy thing where they're actually trying to protect "Got Milk?" or something going on with pasteurized milk products and that's not what this is about. It's acknowledgement of what we've talked about here openly.

So, I regret the fact that they're not here because I think they could have contributed greatly to discussion and answered a lot of questions.

SENATOR FLOREZ: But in their mind they're not here because you're here. So, what's the path in terms of your suit with CDFA?

MR. MCAFEE: I think that this suit goes away when the answer comes from the Legislature. In fact, every judge that's looked at this is saying, "Hey, take this over there and get them to fix it in the law. I don't want to rule from the bench."

SENATOR FLOREZ: Yeah, it's a policy issue, correct?

MR. MCAFEE: Yeah. "Get this taken care of as a law versus legal."

MS. CASSIDY: The suit is just a protective measure to keep us from being shut down because we had already received our two out of four notice and we are allowed under of the new regulation, three out of five testing and then that's it. So it was just the following week.

MR. MCAFEE: We did lose cream off the shelves for about a week-and-a-half. Because cream concentrates coliforms in the spinning process and I don't think that's something that CDFA actually ever envisioned because all the other states just do whole milk. They don't make cream or anything else. And as a result, we made these further products and they were doing end product testing. And I think that's moot point, that they just didn't do the research.

SENATOR FLOREZ: Okay.

MS. CASSIDY: We haven't had a lot of opportunity to engage them. Of course, we have a relationship with the inspectors that come to our facility, to our farm, but they're not the policymakers. And any time that we've tried to sit down with CDFA and do a face-to-face, compare

numbers or whatever, talk about what happened, they haven't wanted to do that; they've declined.

MR. MCAFEE: They've declined me hearings. They will not allow me to have discussions. They won't meet with me. And I'm a nice guy. I mean, I'll sit down and talk and I want to hear their feedback. And there's just no dialogue capacity, capability there, unfortunately.

SENATOR FLOREZ: Alright. And that's unfortunate because we have to come to the table and discuss this.

MR. MCAFEE: We do.

SENATOR FLOREZ: Because they haven't got the message yet, that they need to come to the table. I don't know what else you have. You have two standing committees in the Senate. You have a bill that didn't have any comment and was put on consent. You've had three or four letters from our office asking them nicely and then getting much more terse in terms of appearing. I think it's probably time for people to sit down and see how we're going to solve this. So we hope that the Secretary recognizes that, at least, the Senate, Senator Vincent and I, and I'm sure Senator Maldonado, you heard his statement, coming from both sides of the aisle, Republican and Democrat, aren't pleased at this point that there's no dialogue and that there's not an active way to solve this in the positive.

So I hope that you will work with us to come to the table. So when we ask you to come to the table you won't say you're not coming.

MR. MCAFEE: I will be there.

MS. CASSIDY: We'll be there.

SENATOR FLOREZ: Thank you both for coming.

MS. CASSIDY: Thank you very much.

MR. MCAFEE: Thank you very much.

SENATOR FLOREZ: Okay. We're going to go to our last panel before public comment. And that is, Jenny Armstrong, Rainbow Grocery; Dale Cowan and Ryan Gaska, Elliott's Natural Foods; Colin Davidson,

Whole Foods Market, San Francisco; Patty Glaviano, Real Milk Club; Brittany Miller, Whole Foods Market, Sacramento, and Margaret Wittenberg, Global Vice President of Communications & Quality Standards, Whole Foods Market.

UNIDENTIFIED: Just a ___ point: Most of the retailers couldn't stay up late enough; they had to go do something, so we have a couple of people here but not the whole panel.

SENATOR FLOREZ: That's okay.

UNIDENTIFIED: And we appreciate them being here very much.

SENATOR FLOREZ: Yes. Thanks for sticking around. And we'd like to take your testimony for the record. And then, we'd like to take any public testimony that anyone has. And then, we will close the record and we'll begin to get to work.

UNIDENTIFIED: Just a quick question for Mr. McAfee since he implemented or helped to implement a HACCP program for the apple industry, if maybe there's an opportunity that we might have to get raw apple juice back on the market? I'm hoping that can happen for the near future.

MR. MCAFEE: I want to address that; I wouldn't do that. We found something out about apple juice; it's a perfect medium for growing E-coli 0157H7. It does not have the inhibiting enzymes of bacteria that raw milk does. I wouldn't touch it.

UNIDENTIFIED: Okay. We'll stick to raw milk and juice our own apples.

SENATOR FLOREZ: Either of you go ahead and begin. Just give us your name and your testimony.

PATTY GLAVIANO: Thank you. My name is Patty Glaviano. I live here in Sacramento, California. And I am a little different in comparison to the retailers that do carry whole milk here in Sacramento. We are actually a co-op group of almost twenty families that have the milk delivered to a residential location. And the reason why we do that is

because then we get the price that the retailers get. We're a nonprofit. Basically, my husband and I provide the opportunity for other families to get it at a lower price.

And I just want to make a comment: Also, as Mr. McAfee said, how wonderful it is that everyone has remained here. Thank you. You're so attentive. It's a wonderful thing to see our due process in law working.

And there are many people here that I know. And I'm representing those families. One family that's here is Lori Nelson and her daughter, Maryn Nelson. She's a fourteen-year-old girl who wanted to stay for this whole hearing because of the fact that in 2005 she was on a cross country team in her junior high school and had asthma so bad she had to take an inhaler a half hour before each workout. They started on raw milk soon after that and for some reason they just forgot all about their inhaler. And she is a health fourteen-year-old; a beautiful skinned young lady. So we're happy that she hung in there.

SENATOR FLOREZ: Thank you for being here. Is this your first hearing? Yes, okay.

MS. GLAVIANO: And just a quick testimony. I know we're all tired and want to go home. But this is wonderful. I have three grown daughters. I have six children. My three grown daughters did not drink raw milk. I had no idea as a young mother that it existed for me to choose. I have nine-and-a-half year-old twins and a three-and-a-half-year-old adopted son. And my twins were premature babies and my adopted son was a drug baby. And when he was born we put him on pasteurized formula and he struggled with that. He had cried many times. And when we discovered raw milk he became a raw milk baby and he is a little stud. That boy is three-and-a-half-years-old and he's never had an ear infection, never been sick. And you keep hearing this over and over and so it could be _____ as we talk. But my twins, also, are very healthy children and they drink raw milk more than water, and so, that's always a problem because it costs a lot more. So, it is a wonderful

thing that I'd like to continue to have for my children, especially since really there aren't that many raw drinks out there that my children can take. And it's really been wonderful for them and they are thriving children. I wish they were here. Bless my husband; he took them home so they could get to bed.

I'm willing to answer any questions you have regarding the distribution or the people in our group, whatever you would like.

SENATOR FLOREZ: Let's go ahead and hear from the other panelists and then we'll ask a few questions.

JENNIFER ARMSTRONG: Hi. My name is Jennifer Armstrong. I work for Rainbow Grocery Cooperative. We are a worker owned cooperative. There are about 240 of us. I do most of the grocery refrigerated dairy buying.

Out of all of the milk that I sell every week, we sell about 15 percent raw fluid dairy products. That's a lot. Our raw dairy consumers are among the most educated, the most persistent, the most reliable consumers that we have. I feel that if they were all going to drop like flies they wouldn't be back every single week.

Raw milk, as the buyer, I kind of determine where the price points sit and what kind of money we're going to make or not make on product. Raw milk is one of the absolute in the entire store lowest margin product that we sell. Part of that is because it is such a short base. I am unwilling sit on any kind of milk. I'm unwilling for milk to go bad sitting in my refrigerator. The milk never goes bad.

We have between three and six folks who line up regularly on the two days of the week that Claravale milk is delivered. It is gone from the minute that the store opens or the minute that it's actually put onto the shelf, it's gone within an hour. Every week. It never fails, every week. Every week they ask me where the cream is. Every week they ask me when Organic Pastures butter is going to be back. Every week they ask me what's happening; where's the milk?

None of the conventional milk I sell ever generates any kind of excitement, buzz. We're also never out of it. But, I do throw away conventional milk. I don't throw away raw milk. It just doesn't happen.

So, we are a \$50 million a year grocery store. We don't make a lot of money on raw milk; that's not the reason why we carry it. We carry it because consumers are speaking. They want the product. They find that it is helpful for their health. They care about the way their milk is produced. I would say that we serve probably 175 customers; that's separate tickets; that's not knowing whether a certain customer comes in over and over again and buys the same product. That's kind of a lot. That's a lot of people. If raw milk was gone tomorrow, that's a lot of people for me to face and say, "Hey, here's why," you know?

As a retailer I didn't know when the bill was being passed—when 1735 was being passed that it was going to be up for discussion, going to be something that would be passed; I'd have been here then.

I just think the consumer should have the right to choose what it is they want to drink. They all come back every week. They're not getting sick. Their kids are not getting sick.

And that's all I really have to say. And I appreciate the chance to speak.

SENATOR FLOREZ: Thank you for your testimony. Just a couple of questions in terms of the price points between raw milk and pasteurized milk; can you tell us, give us an idea, the differential?

MS. ARMSTRONG: We try, in general, to keep the price point at, like, the 20 to 35 percent markup. I'd say between 20 and 25 on raw milk. Part of that is because it is so much more expensive and I don't think that cost should be the reason why people can't get milk. Occasionally, I hear the argument of "Hey, raise the price point and then maybe those of us who really want it bad will get it." I feel like if you really want it bad, come and wait at 9:00.

SENATOR FLOREZ: Got you. I can't imagine who those folks would be but I'll take a guess.

Let me ask you for a moment, if I could, about the growing demand. I think that you've kind of made a reference to it. But have you seen the product grow in terms of shelf space as well? Is this something that your particular grocery store is devoting more space to or is it limited simply by the amount delivered?

MS. ARMSTRONG: It's limited by the amount delivered. It's limited by the amount of products offered.

SENATOR FLOREZ: Okay. So you take as much as they gave you?

MS. ARMSTRONG: Yes. And I've seen, as I place a specific order each week, and it used to be a standing order that lasted and it was fine and now I raise the order and I raise the order and I raise the order and I still have people ask me for more.

SENATOR FLOREZ: I got you. And what do you, given that you've actually are talking to customers at that level, what do you attribute that to? You said that they were repeat customers...

MS. ARMSTRONG: I think that most of it is that they're standing out there talking to each other. They are the only customers who will stand aside while everybody who is standing there makes sure that they get a certain amount. Maybe it's not all that they want but when Claravale shows up they all.... "Hey, there's six of us; how many bottles did you get?" They're aware of the process; they're aware of the fact that it's something special and it's not unlimited. There's not hundreds and hundreds of these cows that they're just going to be able to...

SENATOR FLOREZ: And is the buy normally a gallon or two or are people bringing their ice chests or people bringing their trunks full of this? Are they reselling it on the market? So what's the normal buy for the average customer?

MS. ARMSTRONG: I feel like it varies. We're such a different kind of store. We're completely vegetarian which is not like a whole lot of folks, so we get old gals coming in and buying a half gallon they're never going to get through. We have, you know, people coming in with their families and buying five or six gallons. We have muscle men coming in to buy, you know, a gallon or two a week. It just...

SENATOR FLOREZ: These are the muscle men as like the Governor's size?

MS. ARMSTRONG: Kind of. Maybe bigger.

SENATOR FLOREZ: All the CLA benefits, huh? Okay, I got you. Yes.

MS. GLAVIANO: Oh, yeah, I'd like to make a comment on our families. We have families that buy from one-half gallon to twelve half gallons. And my family personally buys the twelve half gallons, just our family of five because we also make raw kefir out of it and that's another reason I'd like it to continue to be available, because we actually make our own raw kefir. Which, my husband has had a compromised immune system for many years and could never drink milk. But because of his research, well, he's also found out that he can handle the kefir which has got all the higher bacteria. So, our families they often increase what they get weekly because of the families kind of get....one woman in our group said she gets addicted to the milk and she goes, "Maybe I shouldn't say that." But it's very tasty and makes you want more.

SENATOR FLOREZ: Addicted would be the word looking at the crowd today. So, I mean, I think that's probably an interesting concept that it is a product that obviously has high demand, no doubt, if people are waiting for it.

Anything else you both would like to add for the record?

MS. ARMSTRONG: No thanks.

SENATOR FLOREZ: Okay.

MS. GLAVIANO: I would to.

SENATOR FLOREZ: Yes, please. And very good testimony, by the way. Thank you.

Yes.

MS. GLAVIANO: I would like to say that I believe in this time, in this age that we live is really, Senator Florez, a tremendous age for us to live in because we have the worldwide web information highway. I think sometimes we're way overloaded with information. And my husband has shared so many things he's researched. I'd say, "Whoa, give me a chance to absorb some of this."

I believe there is absolutely no excuse for anyone not to be able to discover what the truth about not only raw milk but all the disciplines of life. There is research we can do.

The people in my group are highly intelligent people. They're proactive in caring for their children as I am also.

And, I believe that even all of the panel here, your wife, everyone should really investigate it because I know you have people you love very much. And I sincerely believe that just tell your kids....go online and research this; Realmilk.com, organicpastures.com, westona....whatever, just Google raw milk. And your children will be saying "Dad, you know, did you check this out, whatever."

I think that I am blessed. I'm glad my children are blessed that we can find out for ourselves, not just by experts, what really is true.

So, thank you for this opportunity to share today.

SENATOR FLOREZ: You've got it. Thank you both very much. We appreciate it.

Okay. We do have a list for public comment and rather than me read the names, let's just come on up and introduce yourself and give us your name and we'll take your comment.

SUZANNE MURPHY: Hello. My name is Suzanne Murphy. I am Sacramento grown and raised. I live in Wilton. And I have a five-acre farm. And I have milking goats. And I have chickens. And I came to

experience raw milk over many years and that's what caused me to move to the country.

I know the Glavianos. They're instrumental in my converting to raw milk. I had given up on milk because my body couldn't handle it.

And so, I want to answer that question when you said why do you drink raw milk? Because my body accepts it and because I thrive. I have gotten off all of my allergy meds, off my asthma meds, and I am growing healthy. I've given up on doctors and I've converted to raw milk. Not that I don't believe in the medical system; I just know that I trusted them too much.

And I know doing our own research and finding out....and I really appreciate what you are doing here because you take the time to ask questions and to listen. And I really do believe that you are serving us. And I just really want to applaud you for your patience and your eloquence because you have just served us and made me really believe in what's going on here.

SENATOR FLOREZ: Thank you.

MS. MURPHY: And I'm going to write a letter and I want to applaud all of you who have served us today.

SENATOR FLOREZ: Okay. And thank Senator Vincent as well. And as I mentioned, we have been sitting with each other since 9:30 this morning. We sit on almost every committee together, so I want to thank Senator Vincent, as well. As well, the consultants who are guiding us and giving us the requisite documents. Josh is used to these long hearings so I don't even have to applaud him anymore. We've been doing a lot of food-borne illness hearings, as you probably know, over the last year-and-a-half.

Thank you very much.

Anyone else? Yes. Thank you. Thanks for joining us. Your name?

GYPSY TAO: My name is Gypsy Tao. I'm a TV host and media activist from San Francisco.

When I was living in Hawaii I was told that I most likely had cervical cancer. I was told that I had to get half of my cervix chopped off just to find out if I had cancer. I turned down the invasive diagnostic procedures offered to me by, excuse my language, hack doctors who hack off body parts and call it a cure and started looking for a natural cure.

I found the book by Aajounus Vonderplanitz who testified in the earlier panel, this book right here and it's called, *We Want to Live*. Aajounus had 98 percent success rate curing cancer and leukemia with raw foods. I was already eating healthy at that time but Aajounus' book stressed the importance of raw animal food in your diet. I started drinking raw milk and within months I was in perfect health.

I come from Russia. It's a well known fact that the Russian elite during the czar's times always went to the villages for healing when they were sick. In the villages they drank raw milk and ate raw eggs and came back recovered from their illnesses.

I feel that attacks on raw milk are coming from pharmaceutical companies who are threatened by the growing alternative health movement.

Just a couple of years ago a state law was challenged in California. That law states that if a doctor tells his patients about alternative cancer cures that doctor should go to jail. Pharmaceutical companies can't profit from a healthy population. They profit best from a population that is continuously medicated.

Another huge industry that is threatened by the growing raw movement is the commercial milk industry. If people switch to raw milk commercial dairy farms will be out of business. Switching to organic pasture grazed raw milk would force them to dramatically raise their sanitation standards and dramatically decrease their cattle count, therefore, dramatically decreasing their profits.

If our government really cared about our health it would not be coming after organic raw milk farmers; it would be coming after McDonald's and Coca-Cola.

SENATOR FLOREZ: Go ahead. Thank you for joining us. And your name?

PAT LOVE: Thank you for having this event. My name is Pat Love and I'm the founder of the Raw Milk Family. And I have a bachelor's degree with a major in business and a concentration in marketing. And I've been drinking raw milk for about twenty-five years now. Most of it has been in California and has not made me sick. Some people might say I've been lucky but luck is not a consistent and reliable phenomenon. If I were that lucky, I could go to Las Vegas with \$5,000 and leave a month later with \$5 million.

I'm a vegetarian. I don't eat fish and I don't eat poultry. I do partake of eggs. And I'm also on an all raw diet. And I'm also trying to get all of my nutrients from food with no supplements. So if raw milk were to become unavailable in California, I would be very distressed. As a matter of fact, one reason why I chose to live in California is because of the raw milk.

Now on a different note, according to my information, ten living coliforms are permitted in pasteurized milk. And the CDFA has stated in a fact sheet that only a small percentage of coliforms are pathogenic. And now I want to look at this matter through the eyes of the CDFA and kind of work with what they have disseminated. They went on to say that too many coliforms is a sign that the facility is experiencing a sanitation problem. If that were true, or let's say it is true, then whether those coliforms are dead or alive, they still would be a sign. Therefore, if you make some kind of standard for coliforms, like 10, 20, or 50, whatever you apply to raw milk, you also have to apply it to pasteurized milk, including the dead coliforms, as well as those that may have survived the

pasteurization process. And I don't know that the pasteurization dairies would be able to meet such a standard.

Well, in or around 1993, I had a telephone conversation with Richard Nordick, who at the time was the milk sanitation rating officer for the state of Maryland and he told me, these are his exact words, he said, "Pasteurized milk can be more dangerous than raw milk."

I also had a conversation with Boyd Clark in or around 1993 and he was the owner of Stubby's Natural which was a producer and marketer of raw milk in California about 15 or 20 years ago and he said that pasteurization will not destroy the toxic components that have already entered the milk through the pathogens.

And I think that it's still true that the largest outbreak of salmonella in U.S. history occurred just outside of Chicago and pasteurized milk was implicated.

In conclusion, California, in my view, has long been the natural foods capital of the entire world. And raw milk has for many decades played a very significant role in that commendable achievement. And I hope that the final outcome of this battle does not change that. And I also hope that if you work out something that is friendly to raw milk, I hope it has a better fate than AB 1604.

Thank you for listening.

SENATOR FLOREZ: Thank you very much. Very good testimony. Appreciate that.

DAVID _____: Hi. My name is David _____. My first daughter didn't start drinking raw milk until she was two-years-old. She started having tooth decay problems when she was a year old and continued having problems later. My second and third child were given raw milk throughout pregnancy and thereafter. They are three and five-years-old now and their teeth are immaculately healthy.

I am against the pasteurization of raw milk for health reasons. From what I understand, raw fat is detoxifying, whereas cooked fat is a

known carcinogen—that means cancer causing. How does cooking cause food to be toxic? Cooking, such as pasteurization, causes a chemical change.

An example of a chemical change....well, take water. If you heat it, it evaporates. If you cool it, it becomes water again. That is a state changed; it has not changed chemically; it's still H₂O. Take an egg, heat it; it becomes hard. If you cool it, it does not become a raw egg again. It has changed chemically. So how much of a difference can a chemical change make?

Let's take salt as an example. Salt is made up of NaCl—one sodium, one chlorine. Take the sodium away and add another chlorine and it becomes Cl₂, chlorine gas. Chlorine gas has been used to kill people in concentration camps. From food to poison, that's the difference that a chemical change can make.

So I think it's very important to protect the raw milk industry. Thank you.

SENATOR FLOREZ: Thank you very much. Great testimony.

CHILD: _____ it's bad for you.

SENATOR FLOREZ: Thank you so much for that testimony.

DAVID GELLMAN: My name is David Gellman. I am a kindergarten teacher. I, myself, grew up drinking homogenized milk, etc., a common diet. I could not breathe through my nose until I was about eighteen and became vegan for a few years. I have since transformed my diet and now I enjoy much dairy, but raw dairy, butter, etc.

And I work with children, kindergarten children, and I see the amount of asthma, the amount of infections, the amount of antibiotics that these kids are on and it's appalling. And most of them are drinking homogenized milk. And to create a system where healthy alternatives are not available is a very scary future. And to help create a future where we can move towards health and whole foods and a healing that I, myself, have experienced, in strong ways is just essential for our culture.

And I thank you so much for the work that you're doing tonight.

SENATOR FLOREZ: Thank you for your testimony. We appreciate that.

Okay. Yes.

WAHAIN _____ CLAYTON(?): My major purpose for being here today is a voice to raw milk because of the beneficial times I've had in using it in the past six years. I had an extreme case of lactose intolerance. And I'm calling it extreme because I would actually have bleeding to come out of my rectum if I ate ice cream. And I can eat any other food and I had no problems but the moment I would eat some ice cream or drink some pasteurized milk or have some cheese, I would have that symptom. And then I started drinking the raw milk. And a few months went by and I was still having the same symptoms. And then six months went by and me drinking about three cups of raw milk a day. And I just went out, because I like ice cream so much, I just went out and bought some and ate it because I was tolerating the symptoms because it has been happening so long, you know how you allow yourself to just do it.

SENATOR FLOREZ: Sure. Right.

MR. CLAYTON(?): I didn't get the symptoms. So I was a little skeptical. So I went out and got a whole pint and literally ate the whole pint of ice cream. I woke up the next morning and nothing was wrong. A whole week went by and nothing was wrong; two weeks went by and nothing happened. So I said, "You need to try this again. Go out and get another pint of ice cream. Ate it again." It's been six years, not a single symptom has returned.

Now, when I heard that there's a possibility of my rights being volleyed. When I mean my rights, I'm talking about the ability to go out and choose a proper resource to continue my day-to-day health, I thought that was kind of...

SENATOR FLOREZ: You mean, eating your ice cream?

MR. CLAYTON(?): Oh, yes. Of course, eating ice cream. I thought that was a little sad, that someone actually tried to reach out and interfere with my rights in choosing my own company or person that is selling me these good products to use; I was a little bit appalled about that. And so I said to myself, you know, the prospects of the future without this protection, to me was just so frightening. I said, “Okay, you need to get in your car and go to Sacramento. Because if these people take away ice cream from you, you never know, you can become serial or something.” (laughter)

But I’m one of the people that when I was living in San Francisco, I went to Rainbow and got that milk.

SENATOR FLOREZ: That’s great. Well, thank you for driving all the way here. I think it sends the message that...

MR. CLAYTON(?): It was easy.

SENATOR FLOREZ: Where are you from?

MR. CLAYTON(?): I’m actually from Hollywood.

SENATOR FLOREZ: Okay. Alright.

MR. CLAYTON(?): Yes, that’s where I’m living, in Hollywood. But Mark said he needed attendance.

SENATOR FLOREZ: Good.

MR. CLAYTON(?): So you don’t blink and you get in your car and you take care of your job.

SENATOR FLOREZ: Alright. Well, thank you so much for your testimony. We appreciate that.

MR. CLAYTON(?): Thank you. I appreciate you allowing me to be here.

SENATOR FLOREZ: You wanted to say something? Sure. Tell us your name first.

CHILD ANTHONY: My name is Anthony. Decides not to testify.

SENATOR FLOREZ: Okay. Go ahead.

MARTIN _____: My name is Martin _____. I'm French. I came here. I'm here for two months. I'm working on a biodynamic farm here. I have a master's degree in agriculture, environment and food science and _____. I needed some more _____ hands on experience.

But I really appreciate the way you're working here on the hearing because it's really nice. I had a lot of reaction and they were all more or less answered during the hearing. It's really nice. I think it's a really important issue. I mean, in France, also, how important it is, raw milk products, especially for our cheese that you don't want imported. But does it matter? It's not a good idea because it's naturally _____.

What I wanted to say is that we could really see with the first two panels two different orientations of science; one more oriented in the study of dead things and how pathogens are affecting our body and killing us, and on the second hand, how some natural products can bring us health and help us. So it's kind of the old paradigm and maybe the new science.

And we understand quite well how a pathogen works; how they kill us. We don't really understand how milk and many fermented products brings us health. We know there is protein enzymes. We don't really understand how they work. Some people say when we pasteurize the milk it kills the vital forces _____ many times.

And so, I wanted to bring your attention on the fact that we should know that we are really ignorant in many things concerning life and concerning health. So it's really important when building a law or some political frame for such a thing that we should consider the liability of people to choose. Because we have a feeling of what is good and what is not even if we really don't understand in a real scientific way. So that was one thing

And the second thing is, that the political framework and the law should the allow small farmers to still continue to do their work and to

sell locally and that raw milk production doesn't only go to large type farming which _____ are not the best one. I know everywhere in the world small farmers are fighting just to survive, just to do their work. So the law might allow them to do that. And that's really important. That's also the work I was doing in France. And everywhere in the world, I mean, those elementary things are really threatened. So, now I am here and I guess everywhere I've been in the world I will fight for those really important things.

SENATOR FLOREZ: Great. And thank you for your testimony. And are you going back to France at some point?

MARTIN _____: After one year here.

SENATOR FLOREZ: Okay, I'll go back with you. (laughter) Thank you for your testimony.

MARTIN _____: But I really appreciate the way _____ people here.

SENATOR FLOREZ: Well, yeah. And thank you for your testimony, as well. And it will be on the record.

Yes.

DESIREE MORRIS: Hi, I'm going to be very brief. My name is Desiree Morris. And I'm a child of the health movement, in general, but never really knew much about raw versus pasteurized. And I was always taught pasteurized milk isn't good but I've been drinking it and I've consistently had mucus and congestion issues.

And I had a baby thirteen months ago and I breastfed her exclusively for ten months and then started introducing commercial formula and definitely have noticed a change in her. And she was getting ear infections; she wasn't feeling good; crying and crying and then I switched her after a year. You know, they tell you, the doctors tell you that you can put them on whole milk, pasteurized whole milk so I went ahead and did that. And still, problem after problem with her.

And I was in Whole Foods Market, I'm shopping and I see raw milk and I'm going, "Wait a minute, what is this about?" I started researching. I mean, I immediately become a member of the Weston A. Price Foundation. I'm all over this issue now.

And, of course, I had to show up today. Because ever since....now it's been three weeks I've switched her to raw milk only and colostrum, as well. I have noticed a marked improvement with her. I would say the first day and a half, two days, it was like she was going through a cleanse and her body was cleaning out all this bad stuff she had been drinking and all that dead bacteria she had to try to remove that was in the pasteurized milk and now she's just back to how she was when I was breastfeeding her and I am so happy, so happy to have found raw milk.

I mean, now I am outraged to find out that there was this issue. Thank goodness there is Organic Pastures and these organizations and they have put a big label on their milk saying "Come Show Up," so I sure am here.

And also with myself, I started switching to raw milk and everyone in my family, telling everyone I know the issues with it, and have immediately shown a marked difference in myself. I used to have issues with congestion. Every morning I would hock up, kind of, phlegm. And I noticed that just within a couple of days after switching to raw milk that it went away. It just went away. It's amazing.

So, anyway, that's my comments.

SENATOR FLOREZ: Thank you very much. Very good comments.

Okay. Yes.

JEANETTE SCHREIBER: Hi. My name is Jeanette Schreiber and I'm a licensed acupuncturist and herbalist. And nutritional counseling is actually a large part of what I do with my patients.

I want to thank you, Senator Florez and Senator Vincent, very much for staying here this late and listening to all of us. It's very important, as many people have said. So thank you for your dedication.

I'm also here representing other acupuncturists, colleagues of mine. I'm here representing my mother who I converted to raw milk against much, much resistance. And part of her conversion came from going to another small family goat dairy farmer and speaking with her about how she keeps her milk safe. And definitely knowing farmers, knowing who's raising your products that you're eating makes a huge difference.

And I could rave, but I won't because you requested that we only say things that haven't been said earlier. So I'm very passionate about the health benefits. I'm very passionate about the freedom issues that are involved in this. It's very, very important to me. Acupuncture is something that had to be fought for in the 1970s.

And before I go to my main point, I also want to point out that one of the previous speakers said that raw milk doesn't go bad, it sours and it becomes unpleasant to the consumer. It's actually one of the main reasons why I purchase raw milk, is so that I can sour it. And I separate it into a cheese and then I use that remaining whey that has all those bacteria in it, to culture my own sour kraut and it's the best sour kraut that I can find. So I need the milk that will sour in order to make my sour kraut.

That having been said...

SENATOR FLOREZ: I think Mark has some old orders somewhere _____ out the door so you can meet with him afterwards. (laughter)

MS. SCHREIBER: I'll talk to him about that.

The question that had me put my name on the list was when you asked the consumers why are you so passionate? My heart and my stomach leapt up to my throat. My hands started shaking and I wanted to be at the table.

And I became a licensed acupuncturist as a result of having concerns about the environment when I was a teenager in high school. I was really concerned about the environment and eventually came to see

that if I was concerned about environmental health I needed to be concerned about human health. And so, raw milk for me, you don't need anymore details about raw milk, but raw milk for me is the crux or is a major current symbol of a huge shift that's happening. And this is something that's been going on in the background of all of the conversation and all of the testimony but has never been said point blank. How we eat is evolving. How we relate to our food is changing. And you, on the Agricultural Committee dealing with agricultural issues, I'm sure you've seen it with organic stuff and it's going to continue to grow with the growth of farmers markets and CSAs. The food issue is transforming. This is not just a California issue; it's not just a national issue; it's an international issue.

And especially, again, coming back to being an acupuncturist with things like DSHEA (the Dietary Supplement and Health Education Act) and things like _____, these are other things that are happening on the fringe outside of this conversation tonight that are actually potentially impacted by the conversation tonight. So I want to point out that what's happening here is really setting a precedent worldwide.

And so, when we talk about this paradigm shift, the thing that really comes to me, I read recently that a previous head of the FDA back in the 1940s was quoted in the *New York Times* as saying that what we eat, something to the effect of, what we eat has no bearing on our health. And the last 60 to 70 years has been a process of undoing that thinking and undoing that speaking that has colored how food has been handled. And so, when we come to this conversation today we're actually undoing mistakes from the past.

And the distinction between agricultural health and environmental health, there really is none. It's an illusion. And until we're able to modify the systems we have in place or create new systems, they are going to be handled separately. We're going to continue to see the public health issues are distinct from agriculture issues or all of a sudden here we are

now they're meeting, right? So everything is coming to a head here. Everything is really coming to a head here. And so what makes me so passionate about this is that I really see the potential for transforming the world. This, to me, is critical. A small step in changing the health of the world and it's really important to me.

So thank you very much for your time and your audience.

SENATOR FLOREZ: Thank you very much. That's clearly is a new perspective for us, and I appreciate you putting that on the record. Thank you very much.

MS. SCHREIBER: Thank you.

SENATOR FLOREZ: Okay.

KAVIA MCLAUGHLIN: My name is Kavia McLaughlin and I live in Berkeley in the Bay Area. I would also like to thank you for the hearing today. It's like night and day compared to with the hearings that we had in January. And I appreciate that you're all very well prepared.

SENATOR FLOREZ: Well, just to let you know, you're in the Senate now, you're not in the Assembly. (laughter)

MS. MCLAUGHLIN: Yes, there is a really obvious difference.

SENATOR FLOREZ: There's an evolution of Assemblymembers to Senate too. So just so you know there's something to be said about that. So welcome to the Senate.

MS. MCLAUGHLIN: Thank you. One of the things I'm still annoyed by how the CDFA managed to get this bill passed. And at some point....I know it hasn't really been brought up and I don't want to, you know, go back to the past too much, but I just would like at some point, some kind of public acknowledgement, whether it be some kind of a censure or whatever of the CDFA for their actions concerning this bill and also, of course, their actions in ignoring this hearing today. And I think it's really counterproductive because I only started drinking raw milk in October because I heard that it was going to be banned. And I

thought, “Well, I better try it before it gets banned.” And maybe it’s just my...

SENATOR FLOREZ: That scarcity thing really does work, then, I guess, right? Okay.

MS. MCLAUGHLIN: It’s scarcity. It’s also maybe slightly contrary in attitude. But I started researching it and I actually got annoyed also because when I started researching it, you know, I had been told well (because I was also diagnosed lactose intolerant) that lactose exists in the gut of calves and that’s why they can digest cow milk. And when I started to research raw milk and I realized that the bacteria in the raw milk actually create lactase, I had no idea that it was actually present in raw milk. I was really stunned to find that out. And so, I was glad that I had done the research.

Drinking raw milk, I drink Claravale raw milk; it’s like drinking ice cream. I mean, it’s just delicious. And it also gives me energy. Other people have talked about the health benefits, but I find that I snack less if I take some in the morning. It keeps me going. It’s like power food. I feel the way about it like some people feel about a wheat grass juice shot or whatever; it’s just like a shot of extra energy. So I have noticed that benefit.

And so, there is one really important point that I want to make which is this. The only power that we have as the members of the public is the power of our presence here and the power of what we say. And hopefully people will actually read all of the consumer testimony as well as they will pay attention to the expert testimony.

And my concern is about, you both have been very forthright and I know you’re paying a lot of attention and you’re obviously very well prepared and you want to move forward with this, I’m more concerned about the people who are not here because I do not know what they are thinking; I don’t know what they’re hearing.

SENATOR FLOREZ: Oh, don't worry about them. They don't get a say because they weren't here in committee and that's why we're building a record and that's why these comments are important. Because Senator Vincent knows, and we've sat through many of these, that if you're not here you really don't have much to say about a topic that two senators feel is really important. That's the way it kind of works in the Senate. So, we take the time to sit through six hours of testimony, then you've got to be a hard pressed member to say it didn't matter and I didn't bother to show up. So actually, it works in your favor.

MS. MCLAUGHLIN: Well, that's great because, you know, I'm a bit concerned about the kind of cloak and dagger stuff that can go on when we're not around and we've gone home or whatever.

The most important point I'd like to leave you with is, you know, I heard you mention towards the end there the suggestions that you were making to Mark and Colette about the HACCP program and the 50, I think you said, like, a 50 coliform standard and that kind of thing. You know, my feeling is either coliform is relevant or it's completely irrelevant. I think it's become a real security blanket for a lot of the people who believe in the conventional science. And, you know, without that kind of blanket to hold on to, they're just panicked. So let's not put the principle of compromise, let's not elevate it above doing the right thing.

And that's what I would like to leave you with. Thank you.

SENATOR FLOREZ: Great. Thank you. Yes.

BILLY JEAN LUNGUIST(?): My name is Billy Jean Lunguist and I'm not from California. I'm from North Carolina. And I'd like to answer a question that you asked about what happens if you can't get the product. It's illegal to buy raw milk in the state of North Carolina.

I've been drinking raw milk for the better part of 35 years now. I was one of those people that might have been considered one of the weird, fringe cult people that the young lady spoke to earlier because I've

been justifying it my whole life. I've been on my soap box about its benefits and why one should drink it.

My daughter, now, has her own small farm in North Carolina so that she can drink raw milk. My son drives over an hour to acquire raw milk through a co-op in Utah. And I, in North Carolina, have managed to find an avenue of getting raw milk from South Carolina so I guess I'm drinking bootleg milk, yet, once again. So, I guess in the pure sense of the terms I'm admitting to be a criminal.

So, to answer your question earlier, where there is a will there is a way and we'll always do it.

And I'd like to juxtapose that against the idea of the fact that we can go into any commercial grocery store and there are aisle after aisle of sodas and chips and Twinkies and all kinds of food that I would challenge anyone to accept that their child, if you had to pick one food that your child would eat or your grandchild or your cousin or whoever might eat for a prolonged period of time, anybody that has studied and knows raw milk would be very comfortable with the idea of limiting their child to that one food for a while. I don't think there's anybody that would say, yes, I'll feed my child chips or soda or nothing but that for a week, and yet, there's no restrictions on the availability of that. I could go into any supermarket anywhere and buy it and I have to struggle to find my raw milk.

SENATOR FLOREZ: You worried me there. I thought you might have walked into the Senate lounge and saw what we were eating earlier today. So, luckily you hit the right room.

I appreciate that. Did you travel here for the hearing all the way from North Carolina?

MS. LUNGUIST(?): Actually, we're working on a property that we have in San Diego so we did drive up from San Diego last night.

SENATOR FLOREZ: Good for you. And I think that, again, shows...

MS. LUNGUIST(?): Our commitment.

SENATOR FLOREZ: Absolutely. And I appreciate your testimony. Thank you very much for coming. Welcome to California. Are you going to take a couple of jugs of milk home with you?

MS. LUNGUIST(?): We have been drinking plenty of it. And, actually, my son came down to visit from Utah and brought us some raw milk after we had just bought a gallon of Organic Pastures milk to have when he arrived, so we had a lot of milk while we were here.

SENATOR FLOREZ: Okay. Well, Claravale or Mark, here, you can follow them after the hearing or something. Thank you for your testimony.

MS. LUNGUIST(?): You're welcome.

SENATOR FLOREZ: Okay. Thank you for being patient.

DAVID KENDALL: My name is David Kendall. I'm from Nevada City. And I have a brief anecdotal piece of submission. And that is, that up until four years ago I would have my teeth cleaned periodically and I've always had very poor teeth. And the pockets, they would always probe and find my pockets were always enlarging and the large pocket I guess is four or fives and I had sevens and eights. And I have an upper plate now because the dentist said....my teeth were just disappearing, and he said, "And we're going to go after the lower plate, or the lower teeth pretty soon." And shortly after that we began drinking raw milk. And I guess six months later I went to have my teeth cleaned again and the pockets hadn't gotten any larger. And the next time they had gotten smaller. And the guy couldn't understand that. And truly, the only thing that had made a difference was....the only change that I could identify was raw milk. And my teeth were loose. My gums bled. And none of that....my gums do not bleed. I still have the remainder of my lower teeth. The pockets have virtually disappeared. And my teeth are not loose at all. And there have been many other much more subtle changes in my health, all for the good but that has been the most obvious one for me.

Thank you very much for all of your attention. Even the guys who haven't spoken.

SENATOR FLOREZ: Thank you. We appreciate that.

MR. KENDALL: Okay.

SENATOR FLOREZ: Thank you very much for coming.

SHANNON KENDALL: My name is Shannon Kendall. I'm from Nevada City. And I want to thank you very much for having this hearing. And if the questions haven't been your own, then I acknowledge your assistants here. They have excellent questions.

I just wanted to say that my search for raw milk began when I was very young. Some of my earliest memories come from when I was about three-years-old. And my parents were first generation back to the farm just after the war. They'd gone to the University of Illinois to learn how to farm. And they learned that you cook the milk. And I hated that. I was three-years-old but it tasted awful. It was burnt. So I would take my little silver cup and go out to the barn when the hired man, Jake, would milk the cow. And he would fill my cup for me over and over again and I would drink it. No such luck, though, when dad milked. Every drop went into the bucket and went into the house and got cooked.

I didn't come back to raw milk, really, fulltime until about seven, eight years ago when I had difficulty with arthritis in my hands. I was working, managing a vineyard at the time. And that included a lot of pruning. Pruning fourteen acres of plants alone is a lot of work. And, my hands were getting locked up and I said, "I'm not going this way. What can I do?"

And I discovered that there's a factor that's totally destroyed by the pasteurization of the milk, or the heating of the milk, that's in the raw butter fat. It's called the anti-stiffness factor and it was mentioned in a book written by Sally Fallon, which I got a hold of. We heard Sally here earlier today. That started my search for raw milk and consumption of it.

And today I have no swollen fingers, no trouble with stiffness in my hands or any of the other joints in my body.

And my poor sister, who didn't believe what I had to say about that, had double knee replacement surgery in December. But she's now getting raw milk and raw butter in New York State because she had further problems that the surgery didn't take care of.

Thank you very much.

SENATOR FLOREZ: Thank you. Very good testimony. Now, Jake's last name wasn't McAfee or something like that, right?

MS. KENDALL: You know, I don't remember that Jake had a last name. I was just three or four. He was only there, I think, until I was about five.

SENATOR FLOREZ: That's a wonderful story and thank you so much. The best to your sister, as well.

MS. KENDALL: Thank you.

SENATOR FLOREZ: Okay, we're going to have Senator Vincent close....we're closing now. Go ahead, Senator Vincent.

SENATOR VINCENT: I just wanted to say, I don't talk that much, really. But I want to say this and I'm saying it from my heart. I've been around a while. I was on the school board. I was a school board member. I've been a councilman. I was the first black mayor in the city Inglewood's history. Then I went to the Assembly. And now I'm a senator. And I will say without a doubt, this is the best meeting I have ever been to where the public responded and the work that Senator Florez has done to bring this together. And I want to congratulate you. And I think we all should give him a standing ovation for the work that he done. But Dean should get it but he left. I mean, this is the best meeting I've ever been to and I go to a lot of them. And Dean is here to work for the people not on them. So, we should all give him a nice round of applause. (applause and standing ovation)

SENATOR FLOREZ: Well, I want to thank Senator Vincent for always....as I've mentioned, Senator Vincent is one of the senior members of the Legislature leaving in this term, so I do want to, of course, always thank him for his service. You should know he has served a very distinguished career.

You are in the Senate. I think, particularly, folks know that seniority is a big deal in the Senate. And so when you have a senior member of the Legislature here, you should know that when we get into caucus and we have big debates, the person with the longest terms normally wins. So I brought the champion here with us to make sure that when we get into the raw milk battle we have the right person in caucus.

So thanks, Senator Vincent, as well. Thank you very much for being here and sticking through this.

And I would like to thank our consultants very much for sitting through this very long hearing. John and Josh, thank you so much for doing that. Please give them a hand.

And, now, just to end the hard work, it's eleven and in ten more minutes it will be six hours since we started this hearing. I do apologize for the delay. As you know, we're in bill deadline mode. Senator Vincent and I will be in committee at 8:30 tomorrow, in Local Government and a few other places.

But I do want to say, we asked a lot tonight from all of you. You heard two different panels, two different perspectives and I have to go through all of what I said earlier. Needless to say, we have got a lot of work to do. And so, I would simply say that, let's get reenergized about being optimistic, if we could. As hard as it seems sometimes, it's important to be optimistic about changing things that seem somewhat impossible. But we have to do that. And by that it means we have to think about higher standards. And you can always get the higher standards if they're the right standards and that's the problem at this

point. These aren't the right standards. They're not the right measurements; it wasn't the right process. And so, let's begin in the Senate now with a new process, a better standard, and one in which you can get your product, you'll have choice, and hopefully we can look at our two raw milk dairies in California and say they're the leaders in the nation. Because you said earlier, you know California likes to be the leader in anything that we do.

And so, I do want to thank everyone for coming tonight. We very much appreciate it. I want to thank the Sergeants for sitting through this. They're used to it. They go to my hearings. In a normal Senator Florez hearing, as Senator Vincent knows, is somewhere between six to seven hours. So we're absolutely used to this. And the reason for that is, you have to listen and get everything on the record to really go back and go through the transcript and understand it.

Let me also let you know that we are going to try to rebroadcast this somewhere in the week on the Cal-Channel so that anyone who wasn't here, has the opportunity to watch it throughout the state of California and to tune in and to understand it. We'll have a transcript available online very quickly. It's been a long hearing but we do try to put transcripts online as quick as possible.

I look forward to working with all of you. Stay tuned. There's a lot of work to do.

And thank you so much for all of your comments and testimony. They have been extremely helpful. And as you probably know, if you learned anything about this building in the last six hours, you should know that you're always in good hands when you're in the Senate. So I do appreciate all of you for coming.

And we will now adjourn the Senate Select Committee on Food-Borne Illness and the Senate Committee on Agriculture.

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