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DNA Confirms BSE-Infected U.S. Cow Originated in Alberta, Canada

U.S., Canadian officials praise cooperative investigation

The U.S. Department of Agriculture (USDA) says genetic tests confirm that a Washington State dairy cow infected with bovine spongiform encephalopathy (BSE), or mad cow disease, originated in Canada.

"We now have DNA evidence that allows us to verify with a high degree of certainty," the birthplace of the BSE-infected cow, USDA Chief Veterinarian Ron DeHaven said during a January 6 telephone press conference.

Independent tests in Canada concurred with the U.S. results, Brian Evans of the Canadian Food Inspection Agency (CFIA) said during the teleconference.

The Canadian tests "fully complement and reflect those returned from the U.S. laboratory," Evans said.

USDA began tracing the origin of the cow in late December after tests confirmed that the animal carried the first known case of BSE in the United States. U.S. officials at the time said they believed the dairy cow had been born in Canada in 1997 and exported to the United States in 2001, but lacked definitive proof.

The DNA tests on the cow, on one of its calves and on semen from the cow's sire, as well as import records showing that the cow came from a farm in Alberta, make officials "confident in the accuracy of this traceback," DeHaven said.

BSE is a brain-wasting disease that is believed to spread through cattle feed that contains brain or spinal cord tissue from other infected animals. Both Canada and the United States banned the use of ruminant material in cattle feed in 1997; the BSE-positive cow was born months before the ban entered into force, making contaminated feed a possible source of infection.

U.S. officials banned imports of cattle from Canada in May 2003 when that country's first and only known case of BSE surfaced in Alberta.

No links have been found between the two BSE cases, but Evans said investigators would focus on possible common sources of feed. "We have not at this point got sufficient evidence to make any definitive feed link between the two farms" from which the BSE-infected cows emerged, Evans said.

Evans and DeHaven said the investigation of the U.S. cow would continue with both the United States and Canada tracking all animals related to the infected animal and examining common feed sources. Evans said cooperation "continues to be exemplary" and is based on the understanding that food safety is a hemispheric issue.

Both scientists also underlined their confidence in the safety measures that the United States and Canada have adopted over the years. In late December, U.S. Agriculture

Secretary Ann Veneman announced a series of new safety precautions that closely parallel safeguards adopted by Canada following its May 2003 BSE case.

"With those measures in place ... we have the firewalls that all international standard-setting organizations would recommend we have in place to protect the public interest, as well as to ensure that there is no further dissemination of BSE through the feed system," Evans said.

BSE is a public health concern because humans can develop a brain-wasting illness, variant Creutzfeldt-Jakob disease (vCJD), that could be caused by consumption of brain and spinal cord tissue from infected cattle.

Following is the USDA transcript of the January 6 briefing:

(begin transcript)

USDA technical briefing and Webcast

On BSE with Canadian and U.S. Officials including

Dr. Ron DeHaven, Chief Veterinary Officer, USDA and

Dr. Brian Evans, Chief Veterinary Officer, Canadian Food Inspection Agency
Washington, D.C.

Tuesday, January 6, 2004

MR. CURLETT: Hello. I'd like to welcome everybody to today's BSE situation update. I apologize for the late start today. Today we have with us Dr. Brian Evans, the chief veterinary officer for the Canadian Food Inspection Agency. And we have Dr. Ron DeHaven, the chief veterinary officer for the U.S. Department of Agriculture. They will both make statements today, and then we will take some questions. We ask that you limit your questions to one, as we have a lot of people on the line, and that you state your name and affiliation prior to asking your question. And with that, I will turn it over to Dr. DeHaven. Thank you.

DR. DEHAVEN: Ed, thank you very much, and thanks to all of you for joining us, particularly on such short notice.

Today we are updating on recent events that have occurred since the briefing that we held yesterday by phone. We now have DNA evidence that allows us to verify with a high degree of certainty that the BSE positive cow found in the state of Washington originated from a dairy farm in Alberta, Canada. This DNA evidence is based on a comparison of DNA from the brain of the positive cow with the DNA from the semen of her sire, as determined by records on the farm in Alberta.

Additional DNA test results involved the yearling heifer calf on the index farm, which was born from this positive cow. Breeding records on that calf confirm that she was born from the positive cow, bearing the same tag number found on the positive cow at slaughter, which is also the same tag number found on the record on the dairy farm in Alberta, Canada.

This new DNA information, coupled with the documentation that we have obtained from our colleagues in Canada, from the owner of the dairy farm in Mabton, Washington, and through import records makes us confident in the accuracy of this trace-back.

Clearly other elements of the investigation will continue, and will continue on both sides of the border, and may provide additional information.

I'd like to point out that from the very beginning of this investigation the cooperative efforts on both sides of the border have been tremendous. Indeed, we are sharing colleagues, with Canadian personnel actively involved in our epidemiological investigation in the United States, as well as their U.S. counterparts actively involved in the investigation and activities on the Canadian side of the border.

So I want to thank our Canadian colleagues for their professionalism, for their thoroughness, and for their assistance in this investigation.

And now I'd like to pass the microphone to my friend and colleague, Dr. Brian Evans, the chief veterinary officer with the Canadian Food Inspection Agency. Brian?

DR. EVANS: Thanks very much, Ron. As Dr. DeHaven has clearly indicated in his opening address, the DNA results conducted in Canada, and being reported today as well, fully complement and reflect those returned from the U.S. laboratory.

As indicated as well, in reaching the determination being announced today, it is very important that we all recognize the fact that the DNA results themselves are but one step in a broader fabric of elements that are being fully considered as we continue to pursue all of the avenues of the investigation.

The cooperation at the field level and at the laboratory level continues to be exemplary from our perspective, and it reflects the commitment that we both share to protecting public animal health and food safety in the broader North American context.

The finding today is but one step, as Ron has indicated, down a road, which we will continue to pursue in parallel on the Canadian and U.S. sides. The important next steps that we will collaborate on, as he has indicated -- we will look at areas like how this animal has become infected, and therefore feed investigations will be intimate to that determination.

Equally, joint decisions relative to ongoing tracing of associated animals and appropriate depopulation and testing strategies, will be a second key component of the investigation, which we will continue to work through.

And finally, at the end of the day, as we try to bring conclusion to all the avenues of the investigation, we are equally committed to continue to work together in any other manner that would be dictated by the findings of the investigation, so that again other factors are fully taken into account to ensure that there is no outstanding issue, no rock unturned, to ensure at the end of the day, no matter who assesses the integrity of the investigation, that it will withstand any scrutiny brought to bear, and will reflect collectively again our interests to continue to protect public and animal health.

DR. DEHAVEN: With that, operator, I think we could go to questions. Operator, if you could, we would like to have a short question-and-answer period, please.

OPERATOR: Okay, at this time our first question comes from Steve Kay. Please state your affiliation.

STEVE KAY: Gentlemen, I'm Steve Kay of Cattle Buyer's weekly publication. My question relates to primarily events north of the border now, and Dr. Evans, does this confirmation today mean that CFIA will in essence reopen a whole new BSE investigation based on this Alberta, Edmonton dairy farm?

And the second related question is: Can you tell me more about the tentative link that your investigators have found between the Edmonton rendering plant in both the May case and this recent case in Washington state?

DR. EVANS: Thank you very much. This is Dr. Evans. Thank you for the question, Steve. First and foremost, let me reiterate at the outset that this investigation into BSE in Canada has been active since we got the notification from Dr. DeHaven to assist in doing tracing. We from the outset took seriously the possibility that this animal could have been a Canadian-born animal, based on the recognized integration and movement of animals and feed to cross our borders. So this investigation has in fact been active since we were first notified, and taken as seriously as the investigation we undertook back in May.

It does not in any true sense open up new lines of inquiry from the standpoint that as we went through our investigation earlier this year, and based on the international panel review of Canada's circumstance, at that time the determination was taken that further findings of BSE could not be fully excluded, based on Harvard risk assessment and European risk assessments and others that had determined the possibility of a low prevalence. So in actual fact the measures that have been put into place since the investigation in May in fact are the firewalls that are equally important to the firewalls that were in place prior to that detection. The reality of the SRM [specified risk material] ban that was introduced in July is the single most important element in providing public health protection, by ensuring tissues, which could contain potential infectivity; do not get into the human food chain. Our surveillance efforts with the United States have been closely aligned over the past number of years, as have our other measures in dealing with the prohibition of feeds.

In terms of the active investigation itself, we will be and have been pursuing in the tracing process whether there are any remaining animals in Canada from that herd which was dispersed in 2001 that would be of interest in terms of a further testing or depopulation effort, as was carried out in May. But at this point in time we have not determined in any definitive way that any of those animals remain in Canada.

Dealing with the issue of the feed circumstance, that feed investigation has also been active since the original request from APHIS [U.S. Animal and Plant Health Inspection Service] to trace the ear tag on December the 25th. That investigation continues to go forward. As has been indicated, there have been early reports that there may be somewhere back deep in the food system, either at the point of rendering or even further back in that in terms of common sources into rendering, there may be some crossover points. However, it's very important to understand the complexity of feed formulation and ration in terms of how that material is sourced, that we have not at this point got sufficient evidence to make any definitive feed link between the two farms. They did not buy from a common feed mill; they did not have similar type rations on their farm. So we

will have to go deeper into the investigation back to where materials could have been derived, but also recognizing again that we're dealing with pursuit of records that go back some seven years, and we will hopefully be able to draw some determinations, but not with the level of evidence we have as yet.

DR. DEHAVEN: Thank you, Brian. Operator, next question please.

OPERATOR: Our next question comes from Andy Martin. Please state your affiliation.

ANDY MARTIN: Hi, this is Andy Martin at the Chicago Tribune. I wondered what U.S. consumers are to draw from this announcement today that this cow is from Canada. Should they feel more safe to eat U.S. beef given that it came from Canada?

DR. DEHAVEN: This is Dr. DeHaven. While this piece of information today that would confirm with a high degree of certainty that the positive cow did originate from the herd in Alberta, Canada, I think it's premature to draw any sweeping conclusions from this one piece of information. The epidemiological investigation needs to continue. We do know that she came into the United States with a number of other animals from this same herd. The disposition and current location of those animals is certainly an important part of the overall investigation, and what conclusions one might draw from that.

Having said all of that, I would just reiterate the message that we have been delivering all along, and that is despite where this cow might have originated, U.S. beef remains safe. We have made some adjustments and further enhancements to that system based on this situation, but at the end of the day we had a feed ban in place that would preclude the transfer of this disease from animal to animal. As was the case with this particular positive cow, those tissues that represented a risk to the public did not go into the food chain. And the announcement by the Secretary [U.S. Secretary of Agriculture Ann Veneman] last week that those tissues will now be excluded from all animals slaughtered over 30 months of age would just confirm that the beef has been safe, continues to be safe, whether or not this cow originated from Canada or not. Certainly there is an impact in being able to say that we have not yet had a native-born case of BSE in the United States, but we would be quick to add that our cattle markets are highly integrated at the same time, as would be evidenced by this particular movement.

Brian, anything to add to that?

DR. EVANS: I would just reiterate, Ron, again the fact that in assessing whether appropriate food safety measures are in place to protect public health, again the collective international experience reflects on the fact that measures, aggressive measures, a suite of measures, have been in place in both countries predating the detection of BSE, and as identified by any number of international reviews that have taken place. The reality in the North American context is that people should not be making any false assumptions that the circumstances which eventually led to significant issues within Europe, that those same factors have been reproduced in North America. That is certainly not the case, and that was certainly part of the findings of the international review team that reviewed the circumstance in Canada.

And, equally, the suite of measures that were announced in the United States last week, again parallel decision-making and measures that were implemented in Canada earlier. Or I have to remember we are into a new year now, so at mid-point last year -- that with

those measures in place, again, we have the firewalls that all international standard-setting organizations would recommend we have in place to protect the public interest, as well as to ensure that there is no further dissemination of BSE through the feed system.

DR. DEHAVEN: Thank you. Operator, next question please?

OPERATOR: Your next question comes from Shankar Vedantam. Please state your affiliation.

SHANKAR VEDANTAM: This is Shankar Vedantam at the Washington Post. A question for both of you. Could you give us as much detail as you can about the farm where this animal seems to have originated? How big is it? How many animals does it have? And where have those animals gone over the last several years?

And, secondly, could you give us some sense of where the -- Dr. Evans had said that this animal may have had an offspring in Canada. Has that animal been traced either to Canada or the United States?

DR. DEHAVEN: This is Dr. DeHaven. While we have been conducting this investigation jointly, your question, Shankar, certainly goes to the northern side of the border, and I would defer to Dr. Evans to provide the answer.

DR. EVANS: Thanks, Ron. Yes, in terms of defining the herd, the herd from which this animal was derived back in August of 2001 does not exist in Canada at this time. The animals that moved into the United States were in fact part of a dispersal of that herd. Because of health problems the owner was no longer able to sustain his dairy operation. So the herd as it was constituted at that time of some 86 milking cows and 16 heifers no longer exists in any true fashion.

We know from the efforts in the very rigorous investigation conducted so far that 81 of the animals crossed as a group into Washington to a holding premise in early September of 2001. A sub-group of animals, a subsequent group of some 17 younger animals from the farm, were held back for a period of time. Some of the animals were bred and then moved into the U.S. in a second wave of export. And there was a small component of culled cows that were held back given their age and minimal economic value at the time, that were held back into Canada, and are currently under detention here. So the herd in and of itself no longer exists in any true sense, and as I say we continue to cooperate with the U.S. in tracing the animals.

The issue relative to the other offspring that was born in Canada, that animal carried a number of pieces of identification, including what's called a DHI, or dairy herd improvement tag, which is captured when animals enter into lactation, as part of the component of recording their milk production. It is our understanding that that animal was included in the group of 17 heifers that were part of a second wave of export to the United States. That animal would now be over three years of age and milking. And we have reconfirmed also with the DHI group in Canada that there are no records of any animal bearing that identification having entered into lactation in Canada. We have shared that information with the dairy herd improvement people in the U.S., because when the animals crossed the border the identifier number is changed into the U.S.

system of tracking for lactation. And so that's part of the investigation, as Ron alluded to that we will continue to progress.

DR. DEHAVEN: Thank you, Brian. And I know that you have a 4:00 commitment, so I would not hold you past your other commitment, but you are certainly -- Brian, we'd like to have you on as long as we can.

And, operator, I think we'll go to two more questions, please.

OPERATOR: Okay, our next question comes from Mr. James Cutmore. Please state your affiliation.

JAMES CUTMORE: Hello, it's James Cutmore with the Canadian Broadcasting Corporation in Alberta. My question is for Dr. Evans. Are you still there?

DR. EVANS: Yes, I am.

JAMES CUTMORE: What exactly does this new finding mean to the Canadian beef industry as far as the CFIA [Canadian Food Inspection Agency] is concerned? We have heard in the past from the international panel of experts that the one case in May would not be the only one. What are the next steps, and what does the future look like?

DR. EVANS: Well, again, we recognize that there will always be a psychological impact of reporting the second case. As you've indicated, the science from the get-go, given how in North America we were exposed through importations of cattle from the United Kingdom back in the decade of the 1980s -- from that perspective and with the result of our previous investigation, we have always accepted the reality that a small number of additional cases could not be ruled out over the next 18-month period. And, again, this was consistent with the projections of the Harvard University assessment. So from that standpoint this is not a shocking discovery. It certainly does provide some disappointment to the industry, who will again psychologically bear that aspect.

But in terms of the international response and where we go from here, as I say there are active parts of the investigation that will be pursued in close cooperation with our U.S. colleagues. There are elements of the investigation, as we said, that need to be tied off, so that there's no gap in information at the point that the investigation is subject to review. We want to ensure it's in our mutual best interests that the integrity of the investigation is at the highest level that can be achieved with the information and animals that are still available to us.

More broadly than that, the reality being that we have been moving forward since May with the broad understanding at the international level of the true circumstances that existed within Canada that in terms of the case that we have made based on international standards as a country of minimal risk. This does not in any way undermine that. The finding of an additional case, given the size of our population, still is fully well below the threshold to be considered a minimal risk country. So overall, again, we will be continuing our efforts at the international level to focus on those suite of measures that were in place before detection was made, the effectiveness of the surveillance program both in Canada and in the United States, to detect the cases that have been detected, the measures that have been introduced subsequent to the May circumstance, and continue to move forward in a collective way through the international standard-setting

organization to try and work with other countries to continue our efforts to have countries follow the existing international standards in taking their decisions relative to trade.

And, again, from the broader perspective we will be continuing in collaboration with the U.S. and Mexico, and other countries as well, to continue to work at the international community level to recognize the fact that if countries continue to take measures inconsistent with the science, and inconsistent with what the standards proscribe, then the net effect of that will be serving as a deterrent to other countries to want to make the investments in disease control and reporting that both Canada and the U.S. have done. And I believe those messages are resonating extremely well in many countries. And so, again, for us it's a continuation of where we were. And from our perspective this in no way substantively changes the circumstance from where we were in May.

DR. DEHAVEN: Thank you, Brian. Operator, one last question, please.

OPERATOR: Your final question comes from Miriam Falka (ph). Please state your affiliation.

MIRIAM FALKA (ph): Hi, I'm calling from CNN. I have a very simple question, and it's for both Dr. DeHaven and Dr. Evans. Given these results, is this now a Canadian problem? And given the fact that the two industries, both U.S. and Canadian feed industries, are so intertwined, is it still an American problem? Because this has of course economic ramifications. Will U.S. beef be allowed back into the country, into other countries, et cetera, et cetera? So how would you respond to that in very simple terms?

DR. DEHAVEN: This is Dr. DeHaven. You were cutting in and out, so I am not sure I got all of your questions, but I think we have the gist of it in terms of is this an American problem or is this a Canadian problem, and what are the implications in that regard.

It's a North American issue, and has been, continues to be, and really became a North American issue on May 20th with the finding of the first North American native-born case. In terms of the implications of that for the investigation, it will certainly continue. We do know that while we now have evidence to strongly suggest that the positive animal was born in Canada, we also know that there were a number of animals that moved into the United States from this herd that we need to determine exactly where they are at this point, because that clearly is a relevant and an important piece of the overall investigation.

As Dr. Evans has indicated, they are working collectively on both sides of the border to ensure that our collective efforts are comprehensive, that the investigation is thorough. We have asked, as the Canadians did with their previous investigation for an international peer review team to review that investigation as well as to identify any other -- any lapses in the investigation and the respective systems. So I don't look at it as an American or U.S. problem, or a Canadian problem, but rather an issue that we are going to continue to work very cooperatively with on both sides of the border. And before we reach any final conclusions we want to make sure that we have covered all our bases, and as Brian says, left no stone unturned in terms of finding out all the relevant information that we can about this investigation.

Brian?

DR. EVANS: I would echo very succinctly, Ron, that again we have had in place in Canada -- and the United States -- dating back to 1997 -- we have had joint public health and animal health experts who have continuously worked through the reality of protecting at the hemispheric level public health and animal health and food safety. We have taken measures jointly in terms of the firewalls on a progressive basis, dating back to 1989, and have continued through the announcements of last week to treat this issue in a way that provides the highest maximum protection at the consumer level within North America. And I think that action demonstrates to the rest of the world very clearly that we see this issue in the context of we have obligations, and we are jointly carrying them out. And therefore I am very encouraged, and have always been very respectful of the fact that this has never been an isolated issue, one side or the other, but an issue that we both have taken on with the same degree of commitment, with the shared commitment to resolve this issue.

DR. DEHAVEN: Thank you. With that, just a final statement, if I could. And, again, we appreciate everyone being on with us today, particularly with very short notice for today's call. I would echo some of the comments that Dr. Evans has just made relative to our North American system and firewalls or safeguards that have been in place for a number of years on both sides of the border. We've both had feed bans in place that preclude the spread of the disease from animal to animal. And there is some encouragement in the fact that we now have very good evidence that both of these animals were born prior to the feed ban, and therefore have a likely explanation and source for their infection. We have had safeguards in place to protect human health, and now with the Secretary's announcement last week about removal of specified risk materials from cattle over 30 months of age, we now mirror the system that the Canadians put in place after their finding of the positive case in May of 2003.

We both had effective surveillance programs in place. And the fact that we obviously have a very low prevalence of the disease on both sides of the border, and the fact that our surveillance system has picked up these two animals is here again evidence that our system is working.

With the Secretary's announcement last week to not allow non-ambulatory animals into the food chain -- again, another firewall and measure taken out of an abundance of caution -- and all of that in the context that we know from the research and the science of this disease that the most consumed product, muscle meats, are safe in terms of the fact that the tissue or the infectious agent does not reside or is not in -- is not considered to be a risk of infection to humans. So, again, all of these measures have been in place or are in place on both sides of the border. So I think while we certainly want to do a thorough, comprehensive job in completing this investigation, there's every reason for consumers, both in Canada and the U.S., to feel comfortable about the safety of their meat.

With that, operator, thank you very much, and we will -- I will pass the baton back to Ed about further details on future calls or conferences.

MR. CURLETT: Again, thanks everyone for being on the call.

We will continue the technical briefings on an as-needed basis. And we will announce them on our website and through e-mail -- hopefully with a little bit more lead-time. But we will continue the briefings on an as-needed basis.

If you have follow-up questions today, call 202-720-4623. Transcripts will be available on the website. And with that, again thank you very much.

DR. DEHAVEN: And, Brian, thanks again.

OPERATOR: Thank you. That concludes today's conference call.

Thank you very much.

(end transcript)