MANITOBA CLEAN ENVIRONMENT COMMISSION

HOG PRODUCTION INDUSTRY REVIEW

TRANSCRIPT OF PROCEEDINGS

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Held at the Keystone Centre

Brandon, Manitoba

THURSDAY, APRIL 19, 2007

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APPEARANCES:

Clean Environment Commission:

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| Mr. Terry Sargeant | Chairman |
| Mr. Edwin Yee | Member |
| Mr. Wayne Motheral | Member |
| Ms. Cathy Johnson | Commission Secretary |
| Mr. Doug Smith | Report Writer |

# INDEX OF EXHIBITS

NO EXHIBITS MARKED

Thursday, April 19, 2007

Upon commencing at 9:08 a.m.

THE CHAIRMAN: Good morning. We will come to order now. We have an obviously sparse crowd this morning. We originally had a full slate for this morning's agenda, but one person moved to last night, and a couple of others cancelled. We do have, I think we have three of this morning's presenters are here, two in the room now and another one in the building, so we will move ahead with them.

First I just remind you of my standard warning. I would ask that you turn cell phones off, please, or at least turn the ring tone off. If you must take a call, please leave the room, and please no conversations in the audience.

First off is Weldon Newton. Would you please state your name for the record?

MR. NEWTON: Weldon Newton.

WELDON NEWTON, being first sworn, presented as follows:

THE CHAIRMAN: Go ahead, sir.

MR. NEWTON: Thank you very much for the opportunity to present my thoughts on the hog production industry for you today. I operate a

grain and hog farm in partnership with my brother, west of Neepawa. It consists of about 2300 acres of grain production and a 90 farrow to finish hog operation. We also have one full-time employee. I have had the opportunity in the past and the responsibility to serve as elected representative on Manitoba Pork Est, when they had the single desk marketing agency, also on the Canadian Pork Council. More recently I have served as an elected representative on Keystone Agricultural producers and the Canadian Federation of Agriculture. The comments and criticisms that I present today are not made lightly and only after careful consideration and thought.

My farm is located seven miles from the Spring Hill Farms processing plant and about 50 miles from the Maple Leaf plant. We produce all of our feed grains and peas, and we bring in canola meal and a base pre-mix for our hog rations. We manufacture most of our feed. We use a least cost computer program to formulate our rations, along with advice from the nutritionist from our feed company, and our rations are made using peas, barley, hulless barley, canola meal and premix. We do buy a commercial starter ration

which we feed to the pigs until they are about six weeks of age. And we do test our manure on an annual basis to determine its nutrient content.

We have had hogs on this farm since our dad established it in 1957. I acknowledge it is a small operation by today's standard in the industry, but hopefully and probably it will expand in the future. We have one neighbour within one mile of our barns. We raise our sows in group pens on straw bedding. The manure from the dry cell barn is piled in the winter time and then spread in the summertime. In the summer, the manure from this barn is held in a shallow concrete pit and spread and incorporated on a weekly basis.

The rest of our operation is on liquid manure. We spread manure from one storage pit about once a month, and from a second pit about every three months. These pits are concrete and they also have concrete covers on them. Obviously, for this operation the ability to spread at this time in the winter is essential.

We own and operate 12 of the 16 quarter sections of land which are within a one mile radius of our barns. In the summer we keep

one field in summer fallow to spread our manure on. The manure is surface spread and then incorporated the same day with a cultivator. We sow winter wheat on that summer fallow field in late August. When this operation expands in the future, I expect to be able to provide sufficient manure storage to eliminate winter spreading. I would prefer not to spread in the winter, but at this point I have no alternative. And I can certainly assure you, it is not a pleasant task when it is 40 below and a 20 mile an hour north wind and there is two feet of snow on the fields.

We test most of our fields every year to determine what the fertilizer requirements for the next crop will be. We have no field that is more than 20 parts per million of phosphorous on the basis of soil tests taken last fall.

I hope that helps to explain some of my frustration with the process that you are asked to carry out, and the accompanying moratorium which the Manitoba Government has placed on the expansion of the hog industry.

The soil tests with the higher phosphorous levels are due to spreading on parts of those fields during the year the test was taken

or the previous year. The summary of these soil tests are on the back page of my presentation, if you wish to look at it.

As you can see, in 2001 there was several fields there that had a higher level. I cannot totally explain that, but I suspect what has happened is we spread some manure on those fields before the soil tests were taken. And since we have a commercial operator do our soil test, he probably probed in some of the spots where we had already spread manure. I suspect that is why the high levels are there. As you can see last year, in the last two years actually, there is no other fields that have significant levels in them.

And it is with some reluctance that I provide this data. I don't believe it is necessary or appropriate that this business information is made routinely available to the public, but I do provide it to you today to back up my presentation.

I was asked to be part of the phosphorous expert committee which was mandated to examine the need to regulate manure application on the basis of phosphorous, as well as nitrogen, in

the fall of 2002. This committee did look at the science behind the movement of phosphorous off agricultural land. And certainly we found some surprising results in the research literature. The amendments to the Livestock Manure and Mortalities regulation registered on November 8, 2006, incorporated the practical recommendations that were developed by the committee. I believe those amendments are sufficient to address the issue of phosphorous accumulation in the soils from the spreading of livestock manure from all species, not just hogs. In fact, I believe it is quite probable that clay or clay loam soils may be able to absorb significantly higher levels of phosphorous before the risk of environmental loss becomes significant. Each soil type has a different ability to absorb phosphorous, however, we don't have that data for all of our soils at this time, and until we have that additional research data, the current proposal I believe is acceptable.

It has become obvious that a small portion of the province may have a problem meeting the new regulations based on phosphorous. This will affect chicken and dairy producers, as well

as hog producers. The rest of the province has lots of land to spread all livestock manure on the basis of phosphorous as a crop fertilizer.

Let's get past the grandstanding and unsubstantiated accusations, and deal with the real environmental and financial issues in a manner that will allow agriculture, and in particular the hog industry, to continue to be a positive economic contributor to Manitoba.

Agriculture does produce noise, dust, odour and light which can be aggravating to some people under some conditions. That is the reality of rural life. We may argue over what are acceptable levels, but they are a fact of life, and to me the needs of agriculture are more important than the idealistic view of country life that many in our society have, and that refers to some of my farmer neighbors as well.

We do have a better -- we are doing a better job today of protecting the environment than agriculture has ever done. And we will continue to improve in the future, I have no doubt about that. There has been considerable new scientific evidence published in the last two years that has started to show how phosphorous

moves from the landscape. It appears that large amounts of phosphorous moves off the landscape from vegetative matter. And the role of freeeze thaw cycles on the green vegetation appears to increase the movement of phosphorous in the spring run-off, and that is certainly when the largest movement of phosphorous occurs in Manitoba.

More than 30 years ago, most farms changed to zero till or minimum till to reduce soil erosion and to increase soil organic matter that tillage destroys very quickly. This also significantly improves the water holding capacity. This change in soil management practices has probably contributed to a significant increase in the phosphorous that moves off our fields. And we also chop all of the straw today, and the new straw choppers on our combines produce much smaller particles than it did 20 years ago. And I suspect this also makes a contribution to the increased phosphorous movement off our fields, and we can assure you we are not going back to summer fallow in crop production.

I expect you have already seen some of the material published by Dr. Andrew Sharpley of the U.S.D.A. Agricultural Research Service, and

more recently of the University of Arkansas, Fayetteville, and this is on phosphorous movement from the landscape. His recent work on the role of the freeze thaw cycles should be of particular interest. The research in Manitoba by the Soil Science Department, Faculty of Agriculture, University of Manitoba, has verified these processes also occur in Manitoba.

I assume that you will or have talk to Dr. Don Flaten and others at the University of Manitoba to understand these processes.

We can not achieve zero nutrient movement off the landscape. We must be sure that the expectations for agriculture to reduce nutrient movement off our fields are actually achievable. And it is essential that any new regulations recognize the published research that is applicable to Manitoba, as well as the ability of producers to implement them on their farms.

I have a three-step evaluation process that I use for any new regulations or the adoption of new management practices. First, am I convinced that these changes will actually have a measurable impact? Secondly, can I make the necessary changes in my management practices to

make the best use of this new information, and that may include the purchase of new equipment? And thirdly, and the most important one in the end, is can I afford to make the appropriate changes in management practices? When these three conditions can be satisfied, I will do my best to adopt new management practices.

Needless to say, I was astounded to see a moratorium placed on the construction of new or expanded hog barns on December 7, 2006. It is essential that this moratorium be removed as soon as possible so we can plan for the future of not only the hog industry, but also the whole agricultural industry in Manitoba. To me the imposition of this province-wide moratorium was one of the most uninformed, most unnecessary and political opportunist pieces of agriculture policy implemented in Manitoba, and I don't say that criticism lightly. I expect and believe that we deserve a better and more informed decision making process by people who choose to serve in elected public office.

It also sends a message to young people considering a career in agriculture in Manitoba that their job or career can suddenly be

put on hold if a controversial issue happens to emerge in their chosen field of employment. I can't expand my hog barn, but my neighbour can develop a 1,000 head or a 10,000 head feedlot. That to me does not make sense. I can't plan for the future of my farm operation until you have reported to the Minister, and he and his cabinet colleagues decide if there is to be a future for the hog industry in Manitoba. If there is to be another generation on our farm, it will be necessary to expand the hog operation. Fortunately, no one from the next generation had an interest or was in a position to be a part of this operation last fall or will this year. Unfortunately, if they had been interested, they could not have been accommodated, as we could not expand the hog barns. The only other way for our farm to expand is to outbid our neighbors to get additional grain land, and I am not prepared to do that as that is not a financially lucrative proposition.

I have provided you with a summary of the soil test of phosphorous levels on our farms for the last ten years. I have the records that date back to actually 1975 for most of our fields.

We use the fertilizer recommendations from soil test labs as the fertilizer program for our farm. If you examine the summary, you will see that we don't have an excess of phosphorous accumulation in our soils. In addition to the manure that we spread, and it covers probably about 80 acres each year, in addition we buy over 40 tonnes of phosphate fertilizer, usually 1151 every year to meet crop requirements. We also purchase 70 tonnes of anhydrous ammonia each year to supply crop requirements.

Land use planning is an essential issue for rural municipalities at this time. The new Planning Act that came into effect on January 1, 2006, it removed the ability of local municipal councils to make any decisions regarding the construction and development of manure storage structures. They can only place two conditions on these structures, plant trees around the structure and/or cover the storage structure. It is essential that local municipal councils do not have any more authority over these manure storage structures or the application of manure in the future. Many have shown they were not capable of making good decisions about manure storage

structures and manure application in the past, and none must have that opportunity in the future.

It is essential that producers in different areas of Manitoba treat similar environmental issues in a similar manner. This can only be done with Provincial oversight.

The majority of people living in rural areas are not involved in active agriculture, and even fewer are involved in livestock production. However, many expect agriculture to meet an idealistic view of rural life. Agricultural practices must be protected.

The new development plans required by the planning act must have a livestock operations policy. It is essential that similar environmental risks be addressed in a similar manner throughout Manitoba. Provincial oversight in the development of these new development plans is essential. Public use -- public land use policy number 2 must continue to be the basis for the separation distance and location of new and expanded livestock operations.

We must also ensure that municipalities are not successful in finding new creative ways to hinder the development or

expansion of livestock operations as these new land use policies are developed. As an example, the one I live in is trying to force new or expanding operations into an open-ended request process for impact studies before they are allowed to proceed. Our plan, as it is being developed, is currently under appeal.

The hog industry has significant processing capacity in this province and there appears to be interest in increasing that capacity. The Maple Leaf plant is a world scale plant, and the Springhill Farms, while smaller, has the potential to be a niche market plant. They are also relatively new plants. We must find ways to stop exporting unprocessed grain around the world and letting everyone else realize the benefits from processing this grain.

It is obvious to everyone in the agricultural community that the railways, both CN and CP and their employees, are only interested in moving bulk grain and special crops when it suits them and under conditions which they wish to dictate. To me, it makes a lot more sense to keep that carload of feed barley or feed wheat in Manitoba, and export a container of pork which

probably has a value of 10 to 20 times that of a feed barley. And it also provides a job and respectable income for families in Manitoba.

If we look at the scale of agriculture, there is room for both small and large operations. Operations must be available to provide the equivalent living standard and income that the rest of society enjoys. It is not unusual to have grain farms that are 5,000, 10,000 or 15,000 acres in size. These farms once provided the living for many farm families. However, if you decide that you only wish to have a smaller grain farm, and also have a hog operation or a feedlot which requires attention every day of the year, and provides full time employment for your family and other people in the community, you may also have to deal with the unfounded fears of everyone within miles around. And currently in the case of the hog industry, we must also deal with the lack of understanding of agriculture by the Cabinet of the Manitoba Government. Somehow we need some serious attitude changes in all of Manitoba.

I would suggest to you that there are currently sufficient regulations in place to

govern the hog industry, and indeed all of the livestock industry, and I hope that you will come to the same conclusion when you finish your work.

Thank you very much for the opportunity today.

THE CHAIRMAN: Thank you, Mr. Newton. First let me say you do assume correctly, we have talked with Dr. Flaten, and we probably will be some more as this investigation unfolds.

I would like to -- I don't want to get into a great debate on the role of democracy, but I would like to play devil's advocate a little bit with you on the issue of land use planning. And we have heard some very strong and well developed arguments on both sides of this land use planning issue, that the municipalities should be given ultimate control, that the municipalities should have almost no control, as you and others have suggested. Aside from the fact that you say they often don't have the skills or experience to make the decisions, why shouldn't local people, if a majority of local people want a certain policy in place, why shouldn't that carry the day?

MR. NEWTON: Well, land use planning is a very important issue for all of Manitoba, and

this is not about a popularity contest. I look in my area, and I guess I will just take the township that I'm in, or the two townships around me. I'm a relatively small grain farmer in our area. We have 2300 acres, most of the others ones are 5000 to 10,000 acres. So there are a lot of people out there in rural subdivisions that just farm in town. And I don't think the business policy of a community should be developed by a popularity contest. And unfortunately, that is what may be occurring if you let everybody have their say. I think there needs to be some good thought into how this agricultural land is used. Mother nature is not making any more agricultural land, and I think we need to protect and use it for what it is best for, and limit the uses for other sources that are not producing food and fiber.

THE CHAIRMAN: But ultimately -- perhaps not ultimately, but to some extent democracy has become a popularity contest, whether it is at the Municipal or Provincial or Federal level. Shouldn't -- and again, I don't want to appear that I'm taking a position, I want to get your thoughts on it -- shouldn't the people, if that is the will of the majority, and that is not

necessarily a popularity contest, it is the will of the majority, shouldn't they be able to say, we should make the decisions for our community?

MR. NEWTON: I think we have to be very careful with that, and we need some consistency throughout the province. Just because I have a few neighbors that happen to either like my hog operation or absolutely detest it shouldn't be the basis on deciding whether I can expand or not. I want the same opportunity that you can have in other municipalities that may have, you know, a better attitude. But I think we have to look at what is the best use of that land out there for the benefit of all of society. And I would suggest that the continued, almost unlimited, use of it for rural subdivisions in many municipalities is not the best use of that land, and we will as a society pay a huge price for that down the road.

You know, I guess when my dad or my grandfather was farming, a quarter section was a big farm, that is all you needed, and at that point you got everything you needed off the farm. That is not the case today. You need large operations, large levels of gross income in order

to make an equivalent living to what I could earn being employed for somebody in town. And I think we have to recognize that. And people have to appreciate what is necessary to make a viable agricultural operation today.

THE CHAIRMAN: Thank you. Edwin.

MR. YEE: Yes, Mr. Newton, I noticed that you formulate your rations based on the advice of a nutritionist. Do you employ any of the enzymes like phytase or anything else at this time?

MR. NEWTON: No, we are not using phytase at this time. As I said, we have our least cost computerized formula. We do our work and then we have the nutritionist from the feed company verify that what we are doing is accurate and appropriate for the grains that we have. Certainly, if we expanded and become a larger operation, I would suspect that we would be in a position then to probably use phytase, but we don't currently, and we have lots of land to spread the manure on as well, so it is not a big issue for us at this point.

MR. YEE: What portion of your feed fix mix is imported versus what is grown in

Manitoba?

MR. NEWTON: I would say most of it is grown in Manitoba. Our feed grains we grow ourselves. We buy canola meal that we purchase from Bundy in Harrowby, as a matter of fact. And the other part that we bring in is the starter rations which the feed mill manufactures. I'm not sure of all of the ingredients in that. I suspect most of them are indeed Manitoba products, and there will be some additional one in the phosphorous and calcium additions within the pre-mix will be imported into the province, but basically everything else is used in Manitoba. We also use canola oil as well as canola meal in our rations which we get from Bundy in Harrowby as well.

THE CHAIRMAN: Thank you. Wayne.

MR. MOTHERAL: Thank you, Mr. Chairman.

Mr. Newton, land use planning has become and especially seems to be a major focus as we moved into Western Manitoba. There seems to be more and more of an issue, and both ways, I am not saying it is all one sided, it has been two sided. We have noted it in our things, and I think it is

becoming, it is higher up in on our list now I think. We just discussed this, it is one of the major problems there has been in Manitoba. So thank you for bringing it up again.

Just as a personal thing, where do you market your pigs? Like you say you are close to Spring Hill and Maple Leaf both. Where do your pigs go to?

MR. NEWTON: Well, we are seven miles from the Spring Hill plant and they do have an assembly yard. Our hogs are actually slaughtered at Spring Hill but they are sold to Maple Leaf. Spring Hill is custom killing for Maple Leaf at this point and has been for a number of years. As I say, we are the closest hog farm to Maple Leaf and seven miles is a whole lot better than having to truck 50 miles to Brandon. If I had to truck to Brandon, and we may have to down the road, I don't know, hopefully not, I am going to have to get a bigger truck. I make two trips when I do ship now and I can't do that in one day to Maple Leaf. They only want liners there, and I don't own a liner at his point.

MR. MOTHERAL: Another question, in your area, now when I say your area I probably

mean, you know, say ten miles surrounding Neepawa or so, are there many hog operations, are there many large scale hog operations?

MR. NEWTON: No, there are not a number -- there are not very many large operations. The closest ones that are large are Hutterite colonies, and I guess to the south of me there is one about 12 miles south, there is one about 10 miles north, and there is another one about 15 miles northeast. There are a number of smaller hog operations north of Neepawa which aren't in my municipality, in the RM of Rosedale. I'm not sure how big they are, many of them are not too much bigger than what ours are, but I know there is a number up there.

MR. MOTHERAL: And I know that your area does have a larger scale development plan. You have a -- is it called Neepawan area?

MR. NEWTON: Yes, the Neepawan area development plan has been in existence since I believe about 1974, and it entails the RMs of Langford, Lansdowne, Rosedale, and the Town of Neepawa. It has been relatively successful, I believe, in the past. And currently, like everybody else, they are in the process of making

their new development plan. And I believe we are one of the first ones to get near the end of it, but there are some significant issues in it. And their current proposal is being appealed, and that appeal has not been heard, and I suspect probably won't be heard until you are finished your work and have reported as well. It is in the process.

MR. YEE: Yes, we have heard that from many municipalities, they are awaiting the Clean Environment Commission report.

THE CHAIRMAN: Next is Dwayne Blackbird. State your name for the record, please?

DWAYNE BLACKBIRD, having been sworn, presented as follows:

MR. BLACKBIRD: Good morning to the people first. I prepared a written presentation plus I'm going to give an oral presentation. I'm not too sure if you are familiar with the treaty area that was the territory of the Anishinabe people. So I guess I will get into my presentation.

I'm a Anishinabe person. I come from the Keeseekoowenin Ojibway First Nation community. What I'm going to talk to you about is in regards

to treaty. We have been in that area for, as my presentation states, we have been in this area for, you know, around the 1700s. And as the presentation states, we have been in this area, we have knowledge that there was indigenous people here before us, meaning the Assiniboine and the Sioux and the Cree. It was in 1871 that the treaty commissioner was sent to the Manitoba post to enter into treaty discussions with the Anishinabe people.

I guess why I wanted to do this presentation is my great great grandfather was the one who signed on behalf of the southwestern Anishinabe people. So I thought it would be appropriate to come back and let you know my concerns as a descendant of the treaty signatories.

You know, having stated that, I think that the treaty was all about, you know, for settlement and immigration purposes. The community that I come from today is Keeseekoowenin, he was Mekus's half brother. There was two lifestyles negotiated at that time of the treaty, one was for a modern lifestyle and one was for a traditional way of lifestyle.

Keeseekoowenin was a farmer himself, Mekus, my great great grandfather lived the traditional way of life. He lived up in the Riding Mountain until it became a National Park in 1935. He practiced his way of living through the traditional lifestyle. I guess that is why I say there was two lifestyles being discussed at the time of the treaty negotiations.

And if you wanted to take on a modern lifestyle, as the speaker who did the presentation before me mentioned, 160 acres was adequate to support your family. I think that is why the treaty, you know, says that. That if you wanted to get into agricultural lifestyle, that you would be given 160 acres for you and your family.

I think it was about 1867 that they started to interpret the treaty arrangement, meaning coming up with, you know, the Indian Act was developed in 1867, slightly embellishing the treaty itself, interpreting the treaty itself. And then we get into what we have been put through for, you know, whether it be the assimilation policies of the 1930s, you name it.

We have met a number of times in the community with the elders, the youth, in

discussing environmental issues. I think we have nothing against agriculture ourselves, but I think we do have some legitimate concerns when some of those activities will affect the generations to come, meaning intensified livestock operations.

We had a presenter come more than a week ago and speak to the community members in regards to some of the environmental impacts, whether it be from the smell or whatever. I wasn't aware, you know, what to expect when I came here this morning. The presenter before me, when they said that, you know, I hope your intentions are not to mislead this review committee, that is not my intention that I come here. So I was preparing something, you know, to do this presentation. If you want facts, you know, I will give you the facts, how long my people have been in this area. In regards to the treaty, you know, after the treaty was signed, settlement started to happen. Not right away, it wasn't until about 1891 that settlement really started to happen. The treaty was signed in 1871, that is about 136 years ago. My people have been in this area for 307 years, and yet we can see some of the change in the landscape from some of the, you know,

practices that have been going on. You know, I don't know how long we are going to deny, or be in denial position saying that, you know, some of our activities are a detriment to the environment. I think that is why, you know, I wanted to come here and state the concerns that we have as a First Nation community and, you know, go on the record.

So that is why the poster that I brought here is the treaty boundary of the Anishinabe people. It goes into the southeastern corner of Saskatchewan and then, you know, I can go through -- and how those boundaries were come up with is the watershed boundaries, meaning all of the water that drains into the Hudson Bay. I didn't mean to come and give anybody a history lesson but, you know, I have to tell you, these are constitutional rights that are recognized in the Canadian constitution.

So, having said that, there is a number of First Nations that are signatory to that treaty. I think all together there is 19 First Nations that are in that treaty 2 territory. Not all are signatory to treaty number 2. Meaning the Dakota and the Sioux, they are not treaty signatories to the area. Some of them are agents

to treaty 4, but they live in the treaty 2 territory.

As the poster says there, there is Lake Manitoba, Little Saskatchewan, Keeseekoowenin, Dauphin River, Waterhen, Ebb & Flow, Fairford, O-Chi-Chak-Ko-Sipi, and Lake St. Martin, those are signatories to the treaty.

I don't know what more I can tell you right now, other than state our position, give you the history of our people, how long we have been in this area, and that at the end we do have some legitimate concerns that we would hope the panel will take into consideration.

So, I think that is all I have to say right now. And if you had any questions, you know, I will do my best to answer your questions.

THE CHAIRMAN: Thank you, Mr. Blackbird. Your concerns that you note on the second page of the presentation, or the written part of it, did that barn, did it go ahead? I seem to recall that it was brought up a day or two ago by somebody else and it didn't go ahead?

MR. BLACKBIRD: It didn't go ahead.

THE CHAIRMAN: Did your community officially, or members of your community, of your

First Nation go and make presentations?

MR. BLACKBIRD: We did a presentation to the Strathclair Municipal Council.

THE CHAIRMAN: As part of the conditional use hearing?

MR. BLACKBIRD: Yes.

THE CHAIRMAN: Okay. I can also add in respect to general Aboriginal issues and how our review might impact on treaty rights. At our very first meeting I think it was, a representative of the Assembly of Manitoba Chiefs came and spoke about the necessity of consultations government to government. I did consult with the Manitoba Government's person who is responsible for those consultations and was informed that as far as -- since we are only making recommendations to a Minister, we, as a panel, are not compelled to consult, but we certainly welcome input such as yours and that made by this person from the Assembly of Manitoba Chiefs. And we also have scheduled a meeting with representatives of the Assembly of Manitoba Chiefs for mid May to discuss sort of general issues, so that if there is any area where we should make recommendations in that regard, we will, if we

feel compelled that we should do that. But we are pursuing with the Assembly of Manitoba Chiefs, seeking their input into this process.

MR. BLACKBIRD: I think, you know, in regards to consultations, you know, we have always been, like I said, you know, as much as the treaty has not been in the full benefit of the First Nation people, we have an obligation to live up to that treaty agreement. We signed it with the Crown letting settlement and immigration happen. And at that time, you know, we had a very prosperous lifestyle up until about 1935, when we were forcibly removed from Riding Mountain National Park, as we know it today. And like I said, some of our people are farmers as well. We have nothing against agricultural people, but we do have concerns when it is going to have long-term impacts on the environment. I think that is when we do become concerned.

So I thought I would come here and state our position. Chief and Council, you know, have some other things that, you know, but I guess that is my position there is Treaties and Natural Resources, that is my job description. So when something comes up in the area of treaty, that is

my responsibility to come and state our position.

THE CHAIRMAN: Let me thank you for coming out this morning. It is interesting to hear yet another perspective on this whole issue.

Edwin, do you have any questions?

MR. YEE: No, I have no questions.

THE CHAIRMAN: Wayne?

MR. MOTHERAL: No.

THE CHAIRMAN: So thank you for coming out this morning, Mr. Blackbird.

MR. BLACKBIRD: Thank you for hearing me.

THE CHAIRMAN: Is Al Roagasin here yet? Are you prepared to go?

MR. ROAGASIN: Yes, I am.

THE CHAIRMAN: Would you state your name for the record, please?

AL ROGASIN, having been sworn, presented as follows:

MR. ROGASIN: My name is Al Rogasin. I am a retired Professor of Botony from Brandon University. I have taught plant ecology, that is one of my main interests. Ecology is all about environment, interrelations with the environment, and I have been interested for a long time in

environmental issues. I'm not pretending to be an expert or a specialist in soils or biochemistry, or any of these areas, but I have attended a number of hearings, I have talked to farmers, I have read a fair amount. So I think reasonably well acquainted with the main issues. And what I'm going to talk about is not so much a bunch of facts, but my impressions and evaluations, particularly from an ecological viewpoint about the whole hog industry issue.

And it must be said that a lot of these matters have been dealt with before, both in other sessions of Clean Environment Commissions, in hearings before the government, legislative hearings, and in fact some of them even appear in Hansard. So a lot of this is not new. Most of what I say is not going to be new. And it kind of surprises and disappoints me that we have to be saying things over and over again. One would think that -- I'm not blaming you, but certainly a lot of this stuff is on the record, and it would be valuable for the Commission to start from a position that is a few steps ahead. It is hard to be back to square one each time, but nevertheless I will.

We are talking about sustainability and the sustainability of the hog industry in particular. I would like to take a broader view of what sustainability means than just whether this particular industry can continue doing whatever it is doing indefinitely. I think that one has to, or at least should take into account other factors that are related to the industry, environmental factors, the air, the water, the soil, people's health. All of these I think are part of the big picture, if you will. And if anything seriously damages some of these other factors, whether it is the water or health or what have you, to me that is not a sustainable situation, and that is how I view it.

I would like to -- well, I know you can't see it, but this is the final report of the Lake Winnipeg Stewardship Board. It is a very good report in most ways. I would recommend you reading it. And on it, really, all you can see, even if you were closer, you see a lot of green, a loss of forest. It is almost hard to distinguish Lake Winnipeg from the other green. And what this satellite photos shows, the green that you see occupying a fairly good chunk of Lake Winnipeg,

basically it represents very profuse growth of algae, including some that are quite toxic, they can be toxic to humans, other animals, fish, they can have serious and do have serious effects on the fishing industry in Lake Winnipeg.

Now, where does that green, where do those algae come from? Well, basically they are nourishment, they are nourished by the material carried in the waters that flow into Lake Winnipeg. And we are talking here particularly about the nitrogen and the phosphorous components, because the phosphorous especially is important, a critical factor in the growth of algae.

About a month ago or so, a Dr. Andrew Sharpley, who is the sort of North American expert on phosphorous matters in relation to agriculture, gave a lecture at the U of M, mostly to Ag people, soil scientists and others. It was a general talk. And he pointed out that there was a Canadian ecologist in the 1970s, David Schindler, who first did the experiments that showed the remarkable effect that phosphorous had on the growth of algae. And he also mentioned this was taken up quickly, in our knowledge of what is happening, practices of what is happening in the

water, it was taken up and the effect was recognized much more slowly in agriculture, but now it is.

He also pointed out that it is a complex matter, the judgment of the amount of phosphorous that one is supplying with manure. Because until now, until recently we governed fertilizer applications largely on the basis of nitrogen, but that doesn't apply in the same way to phosphorous. And that is one of the problems that we have to deal with. And it is a big problem now.

Where does the water come from? Well, we know very well more than 50 per cent of it comes, and the phosphorous content of that water comes up from the States and Red River. There is some that comes into Manitoba from Saskatchewan and Alberta, through the Saskatchewan River system, and some through the Qu'appelle, some from Ontario, but the greatest part of it within Manitoba comes from Manitoba sources. So we can't just blame our neighbors for the water conditions, we are doing our part in terms of phosphorous contributions and we are doing it well.

Where is that phosphorous coming from?

Well, there are a number of sources, there is no one single villain, if you will have it that way, to blame. Our capital city, which I may have to remind people from outside of the perimeter is Winnipeg, makes great contributions from time to time through malfunctions of the wastewater treatment system. And so do other cities and towns and villages when their water treatment systems or sewage treatment systems don't function properly. And that includes even cottagers around our resort areas who may be using septic fields or septic tanks, some of which work at least for a while, but sometimes even septic tanks develop holes, even bullet holes surprisingly. So there are problems there.

There were also problems from industrial sources. These are point sources, they are easier to identify. And there are also problems, as we know, from agriculture itself.

Now, environmentalists aren't singling out agriculture, but we have to look at all of the sources. We have to blame ourselves for what we put into the system.

In the previous edition of this lake stewardship water report, there was an interim

report put out in 1903, they showed, they had pie charts that showed the proportion of phosphorous and nitrogen content from different sources. Agriculture all together contributed, within Manitoba, occupied about, or had about 37 per cent, actually the largest single chunk of a particular category for contributing to phosphorous that ends up in Lake Winnipeg. Of that, they broke it down further, there is commercial fertilizer applications, and then there is phosphorous derived from manure, livestock manure, cattle and pigs. And here it gets -- there are estimates and there has been a lot of question about the estimates, and one of the chief investigators into phosphorous in Manitoba, Dr. Don Flaten at the U of M, admits in the paper where they come out with the percentages that these are based on estimates, there is a lot of assumptions, and it is not that definite. And I believe that this is one of the areas where we do have to put the money into research to get definite numbers there. But I would point out also that in the 2003 report, the data for phosphorous and nitrogen contributions came from work in 2001.

Now, in 2001 there were roughly two to two and a half million pigs being produced yearly in the province. Now, 2006 and 2007, it is up somewhere between 9 and 10 million. So we are looking at about maybe a four fold to five fold increase in the number of hogs. And I think we can take as a rule of thumb that proportionately there is probably the same increase in the content of manure and all that they contribute. So it is a serious and growing problem, and it impacts on Lake Winnipeg.

The components of the manure, besides the nitrogen and the phosphorous, there are some components which are known as carcinogens, or at least have the potential to act as carcinogens. There are heavy metals, there are antibiotics. Both of these are incorporated in the feed to reduce the incidence of disease and also to step up the growth rate of the animals. And it is particularly serious with the antibiotics in that when they are applied in what they call sub therapeutic doses, which allows some bacteria that happens to be resistant to it to thrive and multiple, and you end up with antibiotic resistent bacteria which poses all sorts of problems in

health. So there are components of the waste, of the manure, that have serious, or can have serious health implications.

Now, I would like to look at what some of the arguments have been with respect to, with respect to attitudes or points of view expressed in the industry, basically in the defence of the industry. Now, there are a number of arguments, but to me one of the main ones is technology is going to solve it. You know, we either have or are developing technology that will settle these problems. Well, I do not doubt that such technology, at least to some degree, can be developed. But to me also the point is, this is now, and while it is being developed, and if it gets more widely used, between now and then there is an unknown period of time, and the processes which lead to pollution are continuing.

What is being done in the industry that contributes to this? And here I'm referring mostly to the intensive hog production, the big barns and so forth. Well, basically, it is like a glorified plumbing system really. Hydraulic engineering is a big part of it. And you take fresh water, which to most people on earth is a

precious resource, and you take that fresh water, you mix it with hog feces and make a slurry, which is something like a milkshake but a different flavour. You pump that through pipes to a lagoon, in most cases an earthen lagoon which doesn't leak, I'm told that it seeps, it is hard to avoid that, into the surrounding soil. From there it is spread on the fields. If it is spread legally, it won't be spread in winter, but -- I have never witnessed this myself -- but I hear from friends in rural areas that sometimes this is done. And sometimes in extreme cases, I have heard that it may go right into ditches or bodies of water. Eventually it will make its way into the Assiniboine through the watershed system, into the Red River and Lake Winnipeg. So what we do here can affect people and animals in the industry in the Lake Winnipeg area.

Now, from an ecological point of view, to take a scarce, relatively scarce and precious resource and use it in this way, I was going to say that I think this is an ecological crime, but I won't because I might be slapped on the wrist for that. I will say it doesn't make any ecological sense. Now are there any -- why then

would such a system be used? My view is that it is crass profit motive. You can handle, you can deal with a large number of hogs, maybe thousands, in big barns, you can deal with them with a minimum of human labour. You don't need a big labour force because it is so well mechanized, automated.

Are there other ways of doing this? Well, certainly one, and basically it is an old, old, old method, it is straw based and uses composting. The problems with that is that it is more labour intensive than moving it through pipes and that way.

Another thing that is done is, in the expansion of the hog industry, and I'm not criticizing any one party, I think the big growth in the industry, or the start of it was during a Conservative administration, and since a few years back it has been NDP, but I don't personally see a big difference in the way they actually operated, except that the present government has much better rhetoric.

They claim they have the most, you know, the toughest regulations in the world. I don't know, it may be true. There are some tough

regulations, and there are laws written on paper. And some of them don't get far from that paper. The problem is there is a minimum of -- I won't say a minimum, I would say the actual practices don't match up to the rhetoric. There is a shortage of personnel and people in the relevant departments. Conservation and Water Stewardship, and the others, you know, will admit sort of off the record that, you know, they are hard pressed to do all that they had to do. There really aren't enough people with background around to do all of the monitoring that needs to be done.

There are problems with some of the technical review commissions, some of them. And again I hear this, so I don't know if this is the truth, but I hear on good authority that a lot of this can be done in the office, measuring the setbacks and the plans, rather than being out in the fields.

Also, I think we can't say that the industry doesn't know what is happening. They began in the States -- well, the intensive hog and intensive livestock operations began some years, I don't know, at least 10 or 12 years, maybe more, in the States before it started in Manitoba. And

in some places like North Carolina, there is such a mess, if you have seen some of the videos or films of the areas where they are concentrated, it is staggering the way the water has been polluted. Even the governments which initially were for the hog barns had to do something. Smithfield in North Carolina, for example, was banned for at least a few years from building any more barns on the coastal plain. Smithfield is the largest pork producer I think in North America. And in other States there has been, there have been similar experiences, real problems. So the industry has to know that, you know, there are problems with odour, there are very serious problems with water pollution.

So by the time they came up to Manitoba you would think they would know that digging earthen ware -- earthen ware, it is not Tupperware -- earthen lagoons has problems. They do see the lagoons are often placed and the spreading done in most inappropriate places. For example, some lagoons are dug -- I haven't seen that, but I know people who live right in those areas and are intimately acquainted with it, there are some lagoons dug in areas where cattails and

bull rushes are growing. I don't know if you are aware of this detailed knowledge of botany, but these only grow in places that you get your shoes wet when you walk through them, they are in water, or the water table is very close to the surface. So if there is a leak or spills, what is in the lagoons has immediate access to the water table. You know, it is right there.

Furthermore, with respect to odour, there are various measures that have been recommended, but one very simple technology is, well, you can put a plastic lid, plastic cover over it. Now, you think that would work. It probably would, but it has got one insurmountable difficulty, it costs money. And so in general, until forced to do it, generally we don't see them.

It reminds me of what we see, or what we have seen when seat belts were first proposed for the auto industry. There was real resistance on the part of the companies because it was going to cost another eight bucks per car or something. But at any rate, these steps weren't taken.

Now, in light of that, having lagoons go into flood plain areas, sometimes they are

built on aquifers or immediately over aquifers. One really good example that is very close to home is the Assiniboine Delta aquifer, which is a big sand pile basically left from the glacier. It is also known as the Carberry Sand Hills. It contains sprucewoods and all, I think it is the largest aquifer in Manitoba. The water it gets comes entirely from rain and snow. It is filtered through thicknesses of sand. It is pretty good water to start with. But if you have leakage into it, or contaminants, and they go into the sand, the part that isn't taken up by plants is going to follow gravity, go down into the water table.

So here we are taking what is good water, it is good drinking water quality, you are using it to make these milkshakes, and then you are emptying the rest of it. Through one route or another, it is going to go in that area back down into the sand and the water table and the river and all of that. Now, that just doesn't make ecological sense. It is like using the toilet bowl and getting your drinking water from it. They have to do this in the rockets they send up, but it goes through a better purification system than we do.

At any rate, in light of what the industry has done or has not done, I don't have a great deal of confidence that they are going to go out of their way in developing the technology. Furthermore, if the technology is developed, I don't know this, but I suspect that the developers are not going to give it away for free, they are going to want to sell it. And as we see, even with plastic covers for lagoons, producers aren't necessarily going to buy it. So there is no guarantee that that is going to work.

I would like to end up with a quote from the conclusion of this, this is a very good, lots of information in that report. My question is, in light of all of that, where is that wanted technology that the industry is promoting? From the conclusion of this final report, it says,

> "what we have seen in Lake Winnipeg in recent years demands our immediate attention."

And then the last two sentences,

> "While there are gaps in the scientific information, gaps that must be filled, we have enough information and knowledge to begin the task

immediately. We can not afford to wait."

And this comes from a distinguished panel of experts and various people.

Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you very much, Mr. Rogasin.

The David Schindler you mentioned, is he the guy at the University of Alberta?

MR. ROAGASIN: Yes. Any more?

THE CHAIRMAN: Yeah, I'm just sort of collecting -- is there a way, or do you know, is there a way to make lagoons 100 per cent leak or seep proof?

MR. ROAGASIN: I don't know of any really. Some are lined with plastic, but even these, they have to be cleaned from time to time. And I'm told that in the cleaning process they don't do this with a toothbrush, they use tractors and equipment, and it is hard to keep from ripping it in places, it has to be replaced.

Also, I think that the regulations require that the base of the lagoon be clay, which is much less permeable. But clay comes in a variety of concentrations, I guess. And it is, I

think it has to be carefully supervised to see that actually the right kind of clay layer is put down there and maintained.

A better system -- and I don't like to be in the position of advising the industry how they can better carry on -- but above ground, say like concrete or steel containers. But let's remember that one of such containers busted in MacGregor a few years back, so they are subject to problems too. But even if they are, even if that lagoon part of it, or the storage part of it is dealt with, ultimately you are using the material on the land. You know, it is spread some ways, it has got the heavy metals, parasites, antibiotics and so forth. So there are risks there, and risks for getting into the tributaries, like the Little Saskatchewan or the Birdtail or other rivers. So there are problems with that. And if there is a sensible way -- and I consider the straw based composting system a much more sensible system that has much less of an environmental impact on the land.

THE CHAIRMAN: Some in the industry would argue that pigs are more susceptible to disease in straw based systems.

MR. ROAGASIN: I can't comment on that. All I can say is in any intensive, whether it is hogs or cattle or chickens or people, whenever you get a large number of organisms concentrated in a very limited area, it is ripe grounds for any kind of disease. And I really can't comment with any authority on that particular point.

THE CHAIRMAN: Thank you. Edwin.

MR. YEE: Yes, Mr. Rogasin, you commented on, and I totally agree with this and I think it is expressed in the Water Stewardship report that new data needs to be done, and certainly we don't want to base things on old data, but you mentioned the fact that it was based on 2001 data. I don't think that you can extrapolate the quantity of phosphate being contributed to the eco-system just based on a direct relationship with expansion. I think because we have heard about phytase and the reductions, I was just going to get your comments in terms of perhaps they should really look at, analytically the content of the phosphates in manures from all sources and calculate and estimate volumes that could be released?

MR. ROAGASIN: Absolutely, I totally agree that that is where the answer has to be. I would just think that as, you know, a first approximation rule of thumb, if you triple the number of pigs, there has to be some increase, you know, they are not all going to go on a diet or --

MR. YEE: Absolutely. The other question I have is maybe just to get your comment on the new phosphorous regulation, the amendment that came out?

MR. ROAGASIN: I'm considerably less expert on this, but from people who have done the calculations, and this has been brought out in several sets of hearings. Okay, there is commercial phosphorous which you have to buy, and because you have to buy it, you are not going to want to waste it. So, that makes some contribution by the amount that may escape being taken up by plants.

With the manure, I wouldn't say it is exactly free, but there are known concentrate, phosphorous concentrations within which most crop plants are grown. And the numbers that I've heard are, it varies with the crop and type of soil and so forth, are generally within the range of about

20 parts per million to about 60 parts per million. And I know the farmers would want this in how many pounds per acre, but I find it easier to -- people can do the conversion. I think that the limit that was placed on the, the limit on phosphorous concentration in the soil, and I think that Al Beck presented this at one of those meetings, was around 250 or 260 parts per million. Now, this is well above -- normally you would want to add a fertilizer that replaces what the crop uses and that is removed with the grain or hay or whatever. If 60 parts per million will do it as far as the crop needs are concerned, then if you are allowing 260 parts per million, that is a lot over. And some of this will build up in the soil, but ultimately even the soil cannot be indefinitely saturated, and the excess is going to run off and going to be a problem. So I can't really understand why they would take a figure that is beyond what the crop replacement need is. I do suspect, in my suspecting mind, that possibly economics and politics have a bit to do with it, but it certainly isn't, as far as I know, what the science says.

MR. YEE: Thank you very much.

THE CHAIRMAN: Wayne.

MR. MOTHERAL: Thank you, Mr. Chairman.

Mr. Rogasin, I just made a couple of comments on, again on phosphorous. When you mentioned the different percentages and things that come off and all of that, and I do know there has been several organizations throughout Manitoba that have done some work on, or are continually doing work on this, and one is the Deerwood Association in Southern Manitoba, and also some people in the Whitemouth area I believe have got some facts on that. The one thing that was quite alarming that I heard from the Deerwood Association was they were trying to get the reading of what the phosphorous was coming off land, from agricultural land. And they had a check strip, they checked on coming through just a natural wooded area or something, and they found that the phosphorous on them was far higher than what was coming off the agricultural fields. So that was natural vegetation. This is all included in the agriculture's perspective, so it is going to be difficult with research to separate, if you are going to be measuring what is the phosphorous

coming off land, what is natural and what is coming from agriculture. They are frustrated too because it is going to be a very difficult task.

MR. ROAGASIN: I agree. And it is puzzling to me as well. But, also, if you look back at say natural vegetation, natural waters, the process of plants growing and then decaying, decomposing, has been going on in this area for 10,000 years maybe. And yet the waters -- like whether we are talking about the rivers or the lakes -- don't have, maybe except in certain areas where there may be high phosphorous, they don't have the concentrations and increase in concentrations say that have been measured in Lake Winnipeg.

Now, I would say that a lot has to do with, you know, where these strips of vegetation are. It may be, I don't know, this is stuff they can experiment with, that in the run-off in these fields that some of the phosphorous is taken up, like both physically there is a barrier to it going through the vegetation, and some may be taken up by that vegetation. And so that it may be the residual of what has been applied in other areas. I don't know that.

I would like that question -- one of things that Dr. Sharpley pointed out, they've also measured phosphorous release from different kinds of soil and different kinds of topography, and he showed aerial photographs of these areas. And he pointed out areas that showed up dark, that were somewhat moister soils, kind of wet, like within a field, that these areas had much higher, maybe most of the run-off of phosphorous in the field came from those wetter spots, not from the dryer spots, and the topography made a big difference.

And also he pointed out that, now he is working in the south in Arkansas, and in a couple of areas that they looked at, there might be a period of ten years and there wasn't really, you know, measurable phosphorous coming out. And then they would have one hell of a rainstorm and torrents coming down, and when they measured the phosphorous, boy, it really came out. So a lot depends on the kind of soil, the degree of moisture, the topographic situation, and the rain, precipitation. It is not a simple thing. I will admit it is a very interesting point, it puzzles me, and I would like to know the answers.

MR. MOTHERAL: One more comment, the

time is slipping by. You had made a comment on the one area where you said you had seen manure storage in and around cattails. I want to describe my farm at one time. I have a very high well drained farm, and after three years of precipitation, of heavy, heavy participation, I had cattails all over the fields. So it is not just low areas, it can happen in high areas too.

MR. ROAGASIN: I have seen, not so much in cattails, there is another big marsh plant that is called giant leaf grass, it has sort of a feathery top and very conspicuous. And I have taken classes out in pothole country, and you will find some of that growing up on the slope. And they have runners, it is not seeding there naturally, they will have runners coming out from the main colony in the slough, or the edge of the slough, and it will go out, 30, 40, big distances. Like Aspen reproduces that way. So they can travel. But normally when you are dealing with cattails, bull rushes, that kind of vegetation, it is wetland vegetation and really is to show that it is in moister areas.

MR. MOTHERAL: That is all. Thank you.

THE CHAIRMAN: Thank you very much for coming out this morning, Mr. Rogasin. Before we take a short break, we have one presenter who will be coming on right after the break and will take about an hour to make his presentation. Is there anybody else in the audience who wishes to make a presentation today? If so, please let us know during the break?

We will break now for about ten minutes.

(Proceedings recessed at 10:36 and reconvened at 10:48 A.M.)

THE CHAIRMAN: Let's come back to order. It is 10:48 a.m. Would you state your name, please?

DR. WIEBE: Arthur Wiebe.

ARTHUR WIEBE, having been sworn, presented as follows:

THE CHAIRMAN: Go ahead, sir.

DR. WIEBE: Thank you very much for inviting me here. I have been invited to speak on the topic of antibiotic resistance.

As I said, my name is Arthur Wiebe, I have lived all of my life in Ontario, mostly. I have been a rural physician for over 30 years. I

began practice in Nipigon in Northwestern Ontario. As you may be aware, this part of Ontario often feels disassociated from the rest of the province and there is occasionally talk about joining your province.

THE CHAIRMAN: We will take you.

DR. WIEBE: I was going to say, I wondered if the feeling was mutual, but certainly we felt that way. Just as an anecdote, I could go down to Younge Street in Toronto and nobody would know where Nipigon is, and yet I could be on Portage Avenue and most of the merchants would know exactly where I was from. So I have very warm feelings.

My mother's family came from Manitoba and I spent some of my happiest summer weeks during my childhood near Elm Creek at my grandparent's farm. With both parents from the west, I was indoctrinated into an affection for the province, and I still cheer on the Blue Bombers. I even married a prairie girl whose father began his career as an Anglican priest in Southern Manitoba.

I found this photo in my mother's collection, and I believe it was, I would guess

somewhere during the 1950s, there would be somebody with an airplane who was taking aerial photographs of the farm, and I can actually picture having been in all of those buildings.

As a boy, my family would come out every couple of years to help with the harvest on the family farm. And when my brother and I would get underfoot in the fields, we would be sent to trap gophers, or to kill mice in the granary. And I understand that many of you have gone through the same sort of process.

As I mentioned, I'm proud to be a rural doctor. I have had the pleasure of combining my lifelong passion for the environment with my professional life. What this slide shows is is the logo of the Canadian Association of Physicians for the Environment. We were recognized in 2006 by Canadian Geographic Journal for our work on health and the environment.

And before I go further, I'm going to say I'm not going to speak for an hour if I can help it. My very best clinical professor at the University of Ottawa Medical School drilled into us that nobody can listen for one hour, and he followed his advice, and that stayed with me.

My expertise, as it comes to this presentation, is not as an infectious diseases specialist but as a front line health care provider, where I see antibiotic resistance on a daily basis in my general practice. I also live only about 40 kilometres from Walkerton, which unfortunately made the world news a few years ago with the contamination of its water supply with e. coli H70157. I still see patients from Walkerton in follow-up, and with the expertise, this unfortunate episode has helped us manage people with kidney problems, particularly as it occurs in diabetes, for example. We began using immediately after that certain tests that everybody frankly now uses in managing diabetic patients.

I like to understand how things work so I'm going to start with basic principles, and partially because I got so excited reading about them and learning them as I prepared for this. It was both a review and new learning experience. Then there will be a survey of some veterinarian farming use of antibiotics, human medical use of antibiotics, human and food animal disease interactions, and perhaps some suggestions and musings at the end.

Antibiotic resistance is about artificial and natural selection. I will introduce the subject of natural and artificial selection with something larger than bacteria. The ancestors of these particular horses were chosen from the stables of Louis the 14th to be sent to his settlers in New France. That was artificial selection. A number of them didn't survive the boat trip. Natural selection. Some died in the cold of the New World. Natural selection again. They were bred to plow, pull, log and ride. Artificial selection. Some died in the northwest rebellion; probably both natural and artificial selection. They almost died out after farm mechanization but are on the way back, both artificial -- artificial selection goes on.

As an aside, this horse, this breed was declared our national horse by an act of parliament in 2002, and these particular animals are called Ginger, Houston and Rosy. And I mucked them out before I came here yesterday morning.

Changes in bacteria, that is what we are talking about when we are talking about concentrated operations, as well as introduction of antimicrobial agents. Having a rough idea of

how horse breeds develop is one thing, but breeding of bacteria can be even more complex and unpredictable than that of larger animals. Bacteria multiply rapidly, and one cell can be a colony of millions in a day. This is an advantage if we want to study changes, but can multiply what might be a problem to us or other creatures just as quickly. In addition to natural variation, which we use in breeding larger animals, bacteria can manifest mutations much more quickly because of the rapid reproductive rate. And I have read that the mutation rate is somewhere between 1 and a million and 1 in a billion, which sounds small, except when you realize that that can happen in a day that something can multiply by a million times. These are usually selected out of the breeding pool, but occasionally they are selected in if they have a survival advantage.

In addition, bacteria can have several forms of what we might call jumping genes. To imagine this on a larger scale, you might picture a chestnut horse becoming a pinto just by standing next to one. That is something like what happens in bacteria. I will just do some simple illustrations. This is, if you will, normal, no

antibiotics, and the red spots represent those with resistent genes, resistent to whatever agent, perhaps antibiotics. If you use the antibiotic, you kill off all of the sensitive ones but you are left with the resistant ones. And then in time, what is left is resistant ones and perhaps a few normal ones that manage to get away.

This slide is intended to show something that bacteria have that larger organisms don't. Those are meant to represent two bacteria. The blue bit represents the DNA that carries the hereditary information. The little circle is of particular note in the red bacterium, and that is something called a plasmid. There are other types of agents that can carry genetic information and, in fact, a plasmid carries between two and thirty genes. So in addition to the blue gene, if you will, that they both have, the red one is carrying some additional information. This information can be shared. So they don't -- it doesn't have to multiply this information. It is intended to show how plasmids carrying DNA can be transferred between bacterial cells. The process likely occurs often during stress, such as when antibiotics are introduced. The plasmid may carry

a gene coating for antibiotic resistance to the next bacterium, even if it is a different species of bacterium. As a matter of fact, an entirely different type of species of bacterium. A gram negative rod may be able to transfer a resistance to a gram positive bacillus. And the way I was taught, there is quite a difference between them.

Dr. Bruce Leven, a biologist at Emory University, and his wife did an experiment some years ago. And I quote from the book, "The Beak of a Finch."

" We did a study. My wife took ampicillin. I took erythromycin. Within a few days we were both dominated by a resistant bacteria. Not only was tetracycline resistance coming up..."

And you will notice that wasn't one of the antibiotics that they took,

"...but also streptomycin, kanamycin, carbenicillin...",

which is one of our last lines of defence in many infections,

"Our bacteria were going from almost nothing to multi-drug resistance in an

amazingly short period of time."
When we say a short period, they did this experiment over a matter of just a few days.

Use of antibiotics in intensive livestock operations, or in American literature, concentrated animal feeding operations: In researching this presentation I used a data base routinely used by medical researchers, PubMed by name. When I consulted a veterinarian epidemiologist to see if this would be a valid way to do it, he also recommended this process. By this method one can combine terms such as, for example, antibiotic resistance and food animal farming, and bring up publications and articles that combine these terms, either as a major or minor factor, but as a significant word among articles from -- well, actually literally thousands of them, but you can usually come up with the order of hundreds that may refer to the topics that you are looking for.

I didn't rely for what I'm saying until the end, when I'm passing some personal commentary, on any literature produced by the organic food industry, nor any what you might call alternative or advocacy literature. I didn't need

to. I was amazed by the consensus of the peer reviewed veterinarian medical literature on use of antimicrobials in agriculture, as well as in human medicine.

Antibiotic use in North America: About 50 to 60 per cent of antibiotic use is for animals. Estimates vary, and partially, as we have had some illusion to earlier, there are trade issues, and sometimes information is not shared as freely as, well, it is not just shared openly for probably pretty good reasons. The total use in animals I have seen varies between 18 to 24 million pounds -- or sorry, 18 to 24 million pounds or 8 to 11 million kilograms annually. That may depend on the data used by the particular researcher in terms of what year. About 10 to 20 per cent is for therapeutic use, that is in animals that are demonstrably sick or diagnosed as being sick. And the greatest proportion is in recently weaned animals, and we have seen reference to starter rations.

There are a couple of fairly recent studies that are worth noting as they appear to illustrate typical use of antibiotics in agriculture. There was a survey of antibiotic use

in swine operations in Alberta published in the Canadian Veterinary Journal in 2006, 90 swine farms representing 25 per cent of Alberta's such farms were surveyed. Antibiotic use was reported in over 96 per cent of weaners, over 85 per cent of growers, and in 60 per cent of finishers in their feed. Often multi-drug regimens were used, and that would mean more than one antibiotic.

A report referred to from the U.S. in this article described use of almost 60 per cent in growers, so it is a little bit less, but I would say comparable numbers, because a number of these surveys were based on voluntary information.

One thing I found interesting, after reading a few of the journals, is that about 30 per cent of producers used antibiotics in finishing operations, although it seemed to be the consensus in some parts of the world that this was not cost effective. One comment that might be made was that when antibiotics were used to improve growth rates and feed efficiency, they were found to be most effective when good animal husbandry was not being practiced.

From my point of view, and perhaps you with your physicians, the analogy that I can use

is when we prescribe cholesterol medications. If I prescribe cholesterol medications to somebody who has only a 2 per cent risk of having a myocardial infarction in the next 10 years, adding cholesterol medication will contribute a very little bit of extra survival capacity, whereas if I give a cholesterol lowering medication to someone who has 40 per cent chance of having a myocardial cardial infarction in the next 10 years, the benefits will be much better. I am not sure how prevalent this is as a factor here, but it does make sense.

The authors expressed some satisfaction that some of the newer antibiotics were not being used. I'm not so happy with the possibility of antibiotic resistance in only the older, cheaper antibiotics, leaving only the expensive risky ones for human use. Some, such as the quinolone, should not be used in children, for example.

I have a dual population, if you will, in my practice. I live next to the Bruce Nuclear Power Plant, I live in a farming community that was opened as the Queens Bush when our municipality was incorporated in 1857, which means

that the farmers cannot afford the new medications. That is why I keep samples.

So I have trouble with, I have seen it expressed by a couple of the academics that they think, oh, it is great that we still have some good antibiotics, but they are in fact they are ones that are out of reach of many of my patients.

The authors felt that there was a clear indication for stopping non therapeutic use of antibiotics in finishing operations, thereby decreasing the risk of drug resistance. That was in the particular Alberta study.

There are so many studies documenting the bacteria, including the antibiotic resistant bacteria in the soil and water, that it seems fairly obvious that this does occur. One that I found interesting, because it was a little surprise to me, was what happens in the air.

Because an intensive livestock operation produces the waste of a small town at least, it isn't hard to see how antibiotic resistant bacteria can be found in water and soil associated with these operations. Because our world isn't sterile, we can understand how traces of antibiotic resistant bacteria can be found in

meat sold at retailers. That is one reason why we don't eat raw meat. Studies have been fairly consistent that there are antibiotic resistant bacteria on the retail shelves. That really shouldn't be a surprise and it is not necessarily a comment of any particular carelessness.

But researchers at John Hopkins School of Public Health report finding a surprising number of resistant bacteria in the air of a concentrated feeding operation for swine. They suggests a risk to humans and presumably swine from breathing this air.

The human food animal connection: There are numerous other studies showing drug resistant bacteria in animals raised for food, with speculation on risks to human health, but has it actually happened or is it just a possibility? In other words, is there a smoking gun? Interestingly, after I wrote this, I encountered an editorial from the New England Journal of Medicine which in fact uses the same phrase.

There are surprisingly few studies, possibly because the research methodology is so expensive, but there are some. Studies in the Netherlands and France have shown that people

working with swine have some of exactly the same bacteria as their animals, and in many cases these are, for instance, methicillin resistant, staphylococcus aureus, which is one of the things which we also test everybody for when they come to our hospital, which means we can't use some common antibiotics if they get an infection. And there have been instances of serious human health effects, such as babies being hospitalized.

Quite probably farm workers may cause infection in their animals, it goes both ways, we are both inhabiting the same place. And that obviously is one reason for biosecurity measures. And I do live in a rural area. As I drove down the highway to come to the airport in Toronto yesterday, I did a rough count and there were between 25 and 30 livestock operations visible from the highway that I drove. So I'm aware of it and I'm aware of biosecurity signs at the farm gate.

So summing up, when animals and/or humans are crowded together the risk of disease increases. The professor before me made an allusion to this. Swine are almost all raised in intensive operations at this time. When exposed

to antibiotics, bacterial colonies will inevitably develop resistance. As I say, I stress inevitably. Bacteria, including resistant ones, are passed between species.

Some conclusions: Diseases can be, have been, and will continue to be passed between human beings and species we raise for food. The chances increase by the way we raise our food animals. We don't know exactly how antibiotics are being used in livestock. There are wide variations in practice, and no monitoring other than sample studies. And I would say I'm not pointing the figure at veterinary and agricultural practices. It is disturbing to me that in the medical profession most studies are funded by the industry, the government seems only too happy to pass off the duty of doing research. And it is not that the studies are done poorly. I guess my main concern is that the studies that aren't being done, and the studies that are being done but not being released. And, of course, we won't know about those.

I'm going to read just some of the comments here. I almost feel like a plagiarist because there is things that I could have written

in the abstracts for a number of these articles. This is from the Preventative Veterinary Health Journal by David Wolinga out of Minnesota.

> "With antimicrobial resistance mounting, an important public health goal is to preserve therapeutic effectiveness of remaining antimicrobials. To that end, fewer antimicrobials should be used in human medicine and agriculture."

In the New England Journal of Medicine, which is arguably the most prestigious in the English speaking world, I think between the Lancet in Britain and the New England Journal, those are the two most prestigious in the English speaking world. The editorial was, "Antimicrobial Use in Animal Feed, Time to Stop." The editorial concludes with a few paragraphs.

> "The most widely proposed argument in favour of the use of antimicrobials for growth promotion and feed efficiency in animals is the economic savings. There are alternatives, as shown in Europe, after the use of these drugs was abandoned. The

economic losses could be minimized and even neutralized by improvements in animal husbandry, the quality of feed and hygiene."

Dr. Gorbach, the editor continues,

"In my view the findings of..."

and he quotes three other authors, White, MacDonald and Sorenson,

"...along with the abundant supporting evidence provided by previous studies represent the proverbial smoking gun. On the basis of discussions by an expert committee of the alliance for the prudent use of antibiotics, several recommendations can be made. Antimicrobials should be used only when indicated in individual infected animals for a targeted pathogen and prescribed by a veterinarian. The use of certain drugs that have important uses in humans such as fluoroquinilones and third generation cephalosporins should prohibited in animals. Finally, the sub therapeutic use of these agents to promote growth

> and feeding efficiency should be banned; a move that will decrease the burden of antimicrobial resistance in the environment and provide health related benefits for both humans and animals."

From the Preventative Veterinarian Medicine Journal, Dr. Wolinga, and this has to do with policy. There has been a statement that we need more science. There is some suggestion that we don't -- not that we don't need more science, but some of it may be impossible to get the certainty that we are looking for. He says,

> "Usage data are non essential in achieving the public health goal. European success at phasing out the unnecessary antimicrobial use in agriculture has derived from decisions based on public health concerns and political will."

As an example, the hotel that I stayed in has banned smoking in all rooms. This is a matter of public health policy, but it is an example of public health policy in the absence of rigidly controlled trials that smoking causes illness. We

all accept that smoking causes illness, but we haven't done a trial, where we have had a controlled trial where we force some people to smoke and others don't on a randomized basis, but we accept it as good public policy.

So somebody insisting on exhaustive scientific proof is perhaps insisting on the impossible. A judgment call will have to be made.

From the Journal of Clinical Pharmacology,

> "The World Health Organization has unveiled a plan for tight restrictions on antimicrobial use in humans and in food animals to combat the problems of microbial resistance, with the development of guidelines to reduce overuse and misuse of antimicrobials in food animals. Veterinary public health is one frontier in the fight against human disease...",

the author goes on.

Warnings: We frequently hear warnings of impending pandemics. I know that precautions are being made, for instance, even in the form of a veterinary reserve to deal with localized

outbreaks of pandemics. I just learned this actually from our own veterinarian a couple of days ago. Many predictions of one form of disaster or another have come and gone and I am wary of these, I am not going to say the sky is falling in. Nevertheless, any public health specialist that I have heard has repeated the mantra, it is not if, it is when a pandemic strikes. I have heard it from Dr. Butler Jones, Canada's Chief public health officer, Dr. Donald Lowe, the hero of the SARS outbreak, and my own medical officer of heath. Dr. Lowe pointed out that SARS was not a particularly contagious germ but that it had caused a particularly serious illness and that its spread depended on human crowding. The parallel with antibiotic resistant bacteria is not hard to see.

I get the Guardian Weekly and in the issue at the end of March there was a small article that said,

> "A multiple drug resistant form of plague has been identified prompting fears of outbreaks that cannot be contained by antibiotics."

I'm not going to pretend that swine are going to

give us the plague. But plague frankly is present in North America, and we are trained that when we see it, we are supposed to be able to treat it with erythromycin. This obviously is no longer the case.

I would like to emphasize that when it comes to antimicrobials and bacteria that there are no new antibiotics for practical purposes, and there is a good business case for that. The reason is largely what I have talked about, the fact is that any new product is going to become rendered useless if it is marketed well. If a new antibiotic comes out and the drug reps come to my office and others like me and market it well, I'm going to prescribe it a lot. The more I prescribe it, the sooner the inevitable resistance will occur. If I were interested in profits in the drug industry, I also wouldn't be interested in working on antibiotics. There is very little future in them. The future lies in things for chronic diseases or for cosmetic causes, if a profit is what you are talking about.

There have been some suggestions that I have come across, better surveillance, and there has been some mention of this. We don't know the

scope of the problem. Some European countries have tried to identify it and they have regulations. Denmark is one that came up, and I believe the Netherlands and Sweden as well.

Legislation: The same idea that certainly you can legislate. For instance, in human medicine we have reportable diseases, so there are a number of diseases that we are obligated to report to the public health authorities.

More biosecurity; certainly I couldn't argue with that. I know there are many farms that we can't visit, and frankly I have not been inside an operation, even in my capacity as coroner, if there were some reason to go inside, that is the only way I could get in. The biosecurity is practiced pretty actively.

Education for those raising and caring for animals: One of the recommendations for the centre for disease control in Georgia was that they have actually -- they actually have a suggested veterinary curriculum. I asked my veterinarian, who happens to be the same age as my son, whether that has happened. It hasn't happened as far as he knows.

Changing methods of animal husbandry; and I'm not going to tell the farmers how to do that.

We can't deny that there is a problem. Every day I see patients that have bacterial infections resistant to some antibiotics. Most of these are likely due to medical prescriptions. Tomorrow when I go back to my office I'm going to be facing a culture report on a patient of mine who has tubes where nature didn't intend them to be and gets frequent infections. Between his own sensitivities to antibiotics and the resistance of the microbes, I don't know what choice I will have as far as treating the infection that he likely has at this time.

Some infections are harder to explain. My hospital was recently closed to visitors because of vancomycin resistant enterococci or VRE. Where did it come from? We don't know. We assumed it was because we were prescribing these things in the hospital, and in some places in the U.S., most people who have VRE have been in the hospital. But in a number of other locations VRE is present in the general poplulation, people who have not been in hospital, so they have acquired

it from another source.

Are there other viable ways to farm? If not, are there safer ways, are there ways to make farming more viable and safe?

I might mention that actually just yesterday, as I checked my mail before I came here, I received a routine communication from the medical, one of the medical laboratories that does our testing. And they tell me now that looking for common strep, as in strep throat, there is a 18 to 15 per cent resistance of strep to erythromycin, which would be my drug of second choice if somebody came with a documented case. But if they were allergic to penicillin, I couldn't use my drug of first choice.

The four laws of ecology; there is a little bit of tongue in cheek here, but I think there is a truth. Everything is connected, everything goes somewhere. And that is why when I hear discussions about lagoons that are containing something, it doesn't sort of disappear, it has to go somewhere. There is no free lunch and nature bats last. That is what we are talking about when we are talking about antimicrobial resistance in bacteria.

I'm associated with the University of Western Ontario Faculty of Medicine and Dentistry, and I'm not sure, I don't think we are unique now in the country in having a significant part of our curriculum devoted to the environment and health.

We do have a program, and actually the students have told me it is a substantial part of their program. What this is predicated on is that you can not have healthy human beings in an unhealthy environment.

I'm going to depart a little bit from my academic reading. The whole issue of antibiotic use in farming has come up because of the issue of crowding or intensive livestock operations, or as well as crowding among humans, as was mentioned earlier. This issue is largely driven by the industry. But what about the other end of the chain, the consumer? The consumers have indicated a steady increase in demand for organic foods, at a rate of growth of, most estimates exceed 10 per cent. They are willing to pay more for this. But Canadian producers cannot meet the demand, so most of our organic food is imported. A major obstacle to producer conversion to organics is the transition, which is three

years plus. But those of you who are more familiar with soils than me, know that some soils take a long longer to become healthy. And income falls during this time, and there is a very steep learning curve which also reduces income.

So-called conventional farming relies on indirect taxpayer subsidies. For example, feed inputs depend on grain, which depends on nitrogen fertilizer. Nitrogen fertilizer depends on natural gas flowing through taxpayer subsidized pipelines and over taxpayer subsidized highways. The waste nutrients of so-called conventional operations may end up in our waterways and taxpayers will end up paying for the cleanup.

The editor the New England Journal of Medicine also suggested in his editorial that in fact there is a significant cost associated with antibiotic resistant bacteria, and that has to be shared by both the food industry and the health care industry.

Organic agriculture doesn't rely on these subsidized inputs and the farmers clean up after themselves. What we have is not a level playing field.

As one of your recommendations, I

suggest this committee could recommend some leveling of the field by offering income stabilization or other financial measures to enable farmers to meet both consumer demand for organic products from Canadian products, and to protect public health. A recommendation of this would take nothing away from current so-called conventional practices, but allow consumers more freedom of choice and utilize the free market economy.

Canadians of all political stripes are thinking more ecologically, as are many physicians. Bringing this thinking into food production should be a given. Thank you very much for your attention.

THE CHAIRMAN: Thank you for your time, Dr. Wiebe.

I'm not sure you can answer this. You said there was a need for more surveillance, but how -- do you have any idea how big a problem pork production is in leading to antibiotic resistance?

DR. WIEBE: Well, the majority, as I say, if you give antibiotic, it is inevitable that the survivors are resistant, it is also by definition that if I take an antibiotic, whatever

is left is resistant.

Pork production, I can't say. Certainly the majority of the samples that were taken in the studies were antibiotic resistant. As far as how much of an effect on human health, you get estimates, they are just ballpark figures in terms of millions or billions of dollars of excess care.

THE CHAIRMAN: I'm not a scientist or trained in medicine. We've heard from some of the presenters before us in the last few weeks, we have heard, for example, that when they deliver their hogs to a processing plant, Maple Leaf here in Brandon, for example, if there is any antibiotic residue, not only are those hogs rejected, but that particular farmer is sort of cut off for up to a year in supplying that plant. Would this -- would antibiotic residue sort of equate to antibiotic resistance?

DR. WIEBE: No, I think it is a different issue, that is somebody who has been using it in the finishings stages, and my understanding is that most producers don't do that. That is why I was a little surprised after having read that basic premise that, in fact,

there were quite a few people using it in the finishing process, but they would have to stop before they were delivered for slaughter in a sufficient period of time so there wouldn't be residues. But surveys done in supermarkets of bacteria that are present on meat of different kinds do show a significant -- there is going to be bacteria there, the world isn't a sterile place, and I accept that. In fact, I think it can be a healthy thing, but a surprising number of those are antibiotic resistant, the ones that are found. And I don't think it is because -- I don't think the two issues are related, I think one is just a matter of some, I don't know, some producers mistiming things, if that is the case. And certainly I think most producers would recognize it would be a great economic disadvantage to be caught that way.

THE CHAIRMAN: I will let -- Edwin.

MR. YEE: Yes, Dr. Wiebe, thank you, it was a very enlightening presentation. And I realize the overuse of antibiotics and the resulting resistant bacteria that is being created is pretty much widespread, not only on the animal side but on the human side. But you specifically

mentioned about monitoring, and one of your slides, your suggestions for better surveillance. Do you have any recommendations in terms of surveillance, and I guess in particular because our panel is looking at the hog production industry, do you have any suggestions there on how we would do better surveillance?

THE WITNESS: I honestly can't say specifically. But I would look at jurisdictions where they have a program of surveillance. And I didn't see too many Danish articles in the English literature, although, frankly, I just touched on them. So that would be my suggestion, is to go to places where they do it. My understanding is the Netherlands has a fairly exhaustive way of dealing with illness in animals, and Denmark seems to be mentioned in a number of the papers printed in North America.

MR. YEE: In terms of changing animal husbandry practices, can you elaborate a bit more on what you see as being more appropriate in combatting the resistant bacteria?

DR. WIEBE: Well, again, I don't want to tell farmers how to do things, but I know reading a veterinary epidemiologist who has

written for veterinarians at Guelph, and written for the Popular Press, Dr. Toews, it comes down to more room, fresh air, fresh water, and get rid of your waste. Those are the general principles. As far as implementing them, I would like to think that people can be creative in doing that.

MR. YEE: Thank you.

THE CHAIRMAN: Wayne.

MR. MOTHERAL: I have one comment, Mr. Wiebe. We have heard it several times where the risk of disease increases in crowded areas. And we've also heard areas, some presentations where the larger barns have a lower mortality rate than some of the smaller ones and the more natural ones. Do you have any numbers at all to -- is it an impression or do you have any numbers to say that there is more --

DR. WIEBE: No, I don't have any numbers, and I'm aware that even in organic operations with free range, you know, these things happen. But if somebody is practicing there, and they cull those animals, they are gone rather than -- because you can't use the antimicrobials on them intensively the way you would, as I say, particularly in a weaner operation. But, no, I

don't have the numbers to answer your question.

THE CHAIRMAN: Just following up on that point, we heard, I think it was yesterday, that animals kept outside, or hogs anyway kept outside, that they are much more susceptible to disease than those that are kept inside, particularly on concrete where it can be kept a lot cleaner.

DR. WIEBE: Yeah, I don't know. I know there are parasites out there. As I say, I know in my horses I know there is strongylosis out there, and I suppose if they were in an operation where their feces all fell through a trap, that wouldn't be the case. As I say, there are -- certainly the people using big operations are not being careless. They are aware that they have to keep their product coming out as healthy as they can.

THE CHAIRMAN: We heard a presentation yesterday from a veterinarian that I found enlightening and almost astonishing in just how clean operations are kept. I sort of thought that sometimes we might want our hospitals to be as clean as his operation sounded.

DR. WIEBE: Well, then you would have

to keep out the visitors.

THE CHAIRMAN: Good point. On that note -- on that note, I want to thank you very much for taking the trouble to come out here to Brandon from Southern Ontario.

DR. WIEBE: Yes, from Kincardin, Southwestern Ontario.

THE CHAIRMAN: Thank you very much for coming here and making this presentation today.

Now, is there anybody else in the audience who is dying to make a presentation? Okay. We will be here until noon. If anybody else shows up and wishes to make a presentation, we will hear them. If not, that will bring our hearings in Brandon to a close. We reconvene on Wednesday at 1:00 in Portage la Prairie. Thank you.

(PROCEEDINGS RECESSED AT 11:32 A.M.
AND RECONVENED AT 11:45 A.M.)

THE CHAIRMAN: Are you ready to go?

Could I have your attention, please? We have one more presenter who just walked in a moment or two ago. So we will come back to order and hear from this gentleman.

Sir, could you please state your name for the record?

DAVID WILLIAMS BARNES, having been sworn, presented as follows:

THE CHAIRMAN: Go ahead, sir.

MR. BARNES: Thank you very much. Am I limited in time?

THE CHAIRMAN: Well, 10 or 15 minutes, is that enough?

MR. BARNES: Yes. I speak extemporaneously, I do not have written notes. Thank you for accepting me here this morning and listening to what I might have to say on the subject of industrial production of hogs in Manitoba. I speak as a citizen, not as a member of any organized group. I do not wish to be considered an "ist" of any kind, either environmental, or social, or a commune.

I wish to speak on behalf of the animals in our confinement system of industrial agri business. I will not call it agriculture because it is not. And on their behalf I would like to say that confinement, large scale confinement raising of hogs is inhumane. By that I mean not only damaging to humans, but damaging

to all forms of life. And I feel that hogs, in fact, all industrially produced animals, are not beneficial to our health because of the stresses placed upon these animals in the facilities which we use to house them, and by the very fact that they are treated as units of production and kilograms of meat rather than as living, breathing, functioning parts of tissue of our precious eco-system and the well of life which supports us. I wish to complain on their behalf that industrial agriculture is wrong.

Now, that is not speaking to science, and the scientific aspects I'm sure are well documented, and I would like to point out that I believe, although I am not a trained and functioning scientist, I do believe that we are wreaking havoc with our environment by the way that we produce animals in industrial confinement conditions. I would like to point out that the track record of the hog industry on the North American continent is one of moving into relatively naive political jurisdictions, such as our own, say six years ago, and convincing the local business and government that industrial scale hog production is valuable because it can

turn a quick profit, or it can be profitable in certain economic measures. And I do believe that this profit is at the expense of the environment.

And as the industry has moved across North America from North Carolina, up through Quebec and into Manitoba, we have seen jurisdictions of people finally becoming aware of the toxicity of their environment, the relatively increasing toxicity as time goes by. And then we see restrictions and regulations come in to play in the hog industry, and their confinement systems and their lagoon systems become more and more regulated and therefore uneconomic, and industry moves on.

And here they are in Manitoba now, and we believe that we have the most concentrated hog population in North America, and that we are producing hogs as fast as they have ever been done, and in the greatest conditions of confinement that are possible known to the standards of the industry today. And we are seeing a concomitant pollution of our surface water. And it seems to me that we are reaching, we are approaching the point where citizens have become alarmed enough, that they have become angry

enough and express themselves enough that the industry is feeling some pressure from citizens. And I do thank the opportunity that I get as a citizen to stand up and say this. It strikes me that we are playing ridiculous games, that we are allowing industrial principles to co-opt life on the planet in far too many ways, and this is just one small one.

The industry is certainly well placed to move somewhere else where consumers and regulators are far more naive, and I am sure that within five or ten years that will be accomplished, after our soil has been depleted and our living conditions on the surface of the land have been reduced, and our citizenry is sufficiently active and vocal, then the industry will move on and take over large proportions of Brazil and other places where governments are actively ready to welcome them.

I believe that phosphorous testing in effluent and in surface waters need to be incredibly more, there needs to be so much more attention given to phosphorous testing in surface water. I don't believe that our government is doing a serious job of regulating and testing the

land application of effluent, or of manure, if you wish to call it that, from hog facilities. It strikes me that we need to have a much more concentrated system of regulation.

I do protest the fact that the government is involved not only as a proponent in the hog industry, but also as a primary financial backer of the hog industry, and also in the regulation and subsequent penalization of producers. I don't think that the government can play all of those roles, and I don't think that they are acting sufficiently, clearly, and decisively in regulation and control. I believe that our industry is just doing what it likes, and I believe that we need to seriously stiffen penalties and increase the amount of the regulatory force on the surface, testing our hog production facilities and what they do.

Thank you for having me speak today.

THE CHAIRMAN: Well, thank you for coming out. Edwin, any questions?

MR. YEE: No.

THE CHAIRMAN: Wayne?

MR. MOTHERAL: No.

THE CHAIRMAN: Thank you very much,

Mr. Barnes, for coming out this morning. Just got in under the wire. Anybody else? Okay.

MR. GIESBRECHT: Well, I will make a short statement.

THE CHAIRMAN: State your name for the record?

MR. GIESBRECHT: Dan Giesbrecht.

DAN GIESBRECHT, having been sworn, presented as follows:

MR. GIESBRECHT: I am simply here because I intend to live in this world, as do all of you. And I'm simply stating that this cannot go on. As soon as you take a patch of land and stick up an industrial hog barn in it, stick your contaminated sloughs all around it, you have raped the land, you have destroyed it completely, and it will take far too long for anyone in this room, including myself, to ever see that land returned to its original state, a state which will let it deal with some of the pollution that we as humans create, some of the pollution.

The natural world can help us take care of ourselves, but we need to take care of it as well, and there is no way that we can do that if we insist on business is business and business

must grow. Industry and nature cannot co-exist, so I'm simply here to say, please do not allow this to happen to our world, please do not kill everything that we all hold very dear. Thank you.

THE CHAIRMAN: Thank you very much. Okay. Anybody else? Okay. Well, we will be here another five minutes, perhaps someone else might come in at the last moments. If anybody comes by noon, we will hear them, otherwise we will be adjourned. Thank you.

(Adjourned at 12:00 o'clock)

CERTIFICATE

I, CECELIA REID, Court Reporter, in the Province of Manitoba, do hereby certify the foregoing pages are a true and correct transcript of my Stenotype notes as taken by me at the time and place hereinbefore stated.

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Cecelia Reid