MANITOBA CLEAN ENVIRONMENT COMMISSION

HOG PRODUCTION INDUSTRY REVIEW

TRANSCRIPT OF PROCEEDINGS

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Held at the Delta Hotel
Winnipeg, Manitoba
MONDAY, MARCH 5, 2007

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APPEARANCES:

Clean Environment Commission:

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

Presentations:

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NO EXHIBITS MARKED
Monday, March 5, 2007

Upon commencing at 1:02 p.m.

THE CHAIRMAN: Good afternoon, ladies and gentlemen. I'd like to call these proceedings to order. My name is Terry Sargeant. I'm the Chair of the Clean Environment Commission. I'm also the Chair of this panel. With me on the panel for these hearings are Edwin Yee and Wayne Motheral.

I have a few opening comments to make.

The Clean Environment Commission has been requested by the Minister of Conservation to conduct an investigation into the environmental sustainability of the hog industry in Manitoba. The Terms of Reference from the Minister direct us to review the current environmental protection measures in place relating to hog production in Manitoba in order to determine their effectiveness for the purpose of managing the industry in an environmentally sustainable manner.

Our investigation is to include a public component to gain advice and feedback from Manitobans. This will be by means of public meetings in the various regions of Manitoba to ensure broad participation from the general public.
and affected stakeholders.

We have been asked to take into account efforts under way in other jurisdictions to manage hog production in a sustainable manner. Further, we are to review the contents of the report prepared by Manitoba Conservation entitled "An Examination of the Environmental Sustainability of the Hog Industry in Manitoba."

And at the end of our investigation, we will consider various options and make recommendations in a report to the Minister on any improvements that may be necessary to provide for the environmental sustainability of this industry.

To ensure that our review includes issues of importance to all Manitobans, the panel has undertaken to hold 17 days of meetings in 14 communities throughout agri-Manitoba. These meetings are commencing today and will continue through March and April with the final public meeting currently scheduled for Winnipeg on April 27th. It is open to any groups or individuals to make a presentation to this panel on issues related to hog production in the province.

For the most part, presentations are
to be limited to 15 minutes. Exceptions may be made in cases where a presenter needs more time but this must be arranged with the Commission secretary prior to the presentation.

Those making presentations to the panel will be required to take an oath promising to tell the truth to the panel. Presentations should be relevant to the mandate given the Commission by the Minister and to the issues described in the Guide to Public Participation in this review which is posted on our website. If a presentation is clearly not relevant, I will rule it out of order. It is also open to me to rule out of order presentations that are clearly repetitive.

Members of this panel may ask questions of any presenter during or after the presentation. There will be no opportunity for other presenters to question or cross-examine presenters.

Today will differ from the norm. Both the Manitoba Pork Council and the Coalition of Environmental Groups will make opening presentations of approximately two hours each. At the final hearing, both of these parties will be
given an extended period, likely about one hour,
to make closing comments.

In addition to the public meetings,
the CEC is engaging consultants to assist us in
this review. The results of these research
endeavours will be posted on our website upon
receipt. For the most part, that will be in late
June. Parties will be invited to provide written
comment on any of these reports if they so wish.
A reasonable, albeit brief, period of time will be
allowed for this. Written submissions will also
be accepted. Information as to how to submit
written suggestions is available on our website.
The deadline for receipt of such written
submissions is May 7th.

We also realize that many people are
reluctant to make presentations in public for a
variety of reasons. To that end, we have engaged
a graduate student from the University of Manitoba
to meet with or talk on the phone with people who
would rather not speak at public meetings. These
meetings will be kept in confidence. Information
as to how to contact this person is available on
our website as well as at the table at the back of
the room.
Some administrative matters. If you wish to make a presentation today or at any of our other meetings over the next six or seven weeks, you may register today at the table at the back of the room.

As is our normal practice, we are recording these sessions. Verbatim transcripts will be available on line in a day or so. You can link to these transcripts from our website.

And finally, in respect of cell phones, I would ask that they be turned off or the ring tone turned off. And if you must take a call, please leave the room. I am not terribly tolerant about cell phones going off in the middle of hearings. It's discourteous to the presenters. We have a special shredding machine for cell phones and I will confiscate them and throw them in, if any of them go off.

That's all I have to say by way of opening. I would now invite the Manitoba Pork Council. First, before we proceed, I would like each of you to introduce yourselves for the record and then I'll ask our secretary, Cathy Johnson, to administer the oath to tell the truth.

MR. MAH: For the record, Peter Mah,
Manitoba Pork Council.

MR. KYNOCH: I am Karl Kynoch, the Chairman of the Manitoba Pork Council.

MR. DICKSON: I'm Andrew Dickson. I'm the General Manager for the Manitoba Pork Council.

MS. BRYKSA: And I'm Tracey Bryksa, Manager Public Affairs and Marketing for the Pork Council.

KARL KYNOCH, Chairman of Manitoba Pork Council:

MR. KYNOCH: Thank you. I will just give a brief overview who we are and then we'll get into some of the technical stuff.

Manitoba Pork Council is a membership association of all the hog producers of Manitoba. We represent approximately 1,400 hog producers in the province. We were created by government and are funded by a mandatory check off. That in itself points out that we speak on behalf of all the producers in this province.

Our mission is to foster the
sustainability and prosperity of the pork industry
for the good of all hog farmers and all
Manitobans. I feel we've done a very good job of
that in the past and we will continue to do so in
the future. Our Board of Directors is made up
from 14 elected members. We have eight
geographical districts across the province and we
also have five production districts and one
weanling district. As you can see, we have a good
cross-representation on our board.

We have subcommittees that oversee the
activities, an Executive, Research & Environment
Committee, Public Affairs Committee, Quality
Assurance and Food Safety, and a Traceability
Committee. Manitoba hog farmers have invested
over $20 million in new technology and independent
environmental research over the past years. Over
the next eight weeks, we will show what we already
know to date is that we are good stewards of the
land in the past and we will continue to be in the
future, and that the hog industry is sustainable
for Manitoba.

With that, I would like to introduce
Andrew Dickson, my General Manager, Peter Mah who
is the Director of Community Relations and
Sustainable Development. Tracey is our General Manager of Public Affairs. She's here to help with technical support. Peter and Andrew will be giving the overview of the technical information of the hog industry. So with that, I will hand it over to Andrew.

ANDREW DICKSON, General Manager of Manitoba Pork Council:

MR. DICKSON: Thank you, Commissioners. I'm going to work our way through the ring binder that we gave to you and there's various sections in it and I'm going to highlight some of the various points in the section. And to aid this, we're also having a Power Point presentation of some of the highlights as well to reinforce the points we're going to try and make.

What we tried to do here is respond to the issues that you asked the public to respond to as a result of your scoping hearings. And there's about 15 sections that we'd like to try and cover quickly in the next hour and a half or so and then hear questions. Now, I don't know how you want to handle questions. Do you want to do it as we go along or do you want to do it towards the end?

THE CHAIRMAN: I think we'll probably
do it both. If you raise issues that clearly we
need further information on, we'll interrupt you,
if you don't mind, otherwise we'll save questions
until the end.

MR. DICKSON: Some of the responses
are interwoven into the different sections. We'll
deal with something on soil quality as
implications for nutrient management and so forth.

Now as an opening, I was encouraged to
provide a description of the industry as it
currently stands so people who aren't familiar
with hog production have some idea of the
terminology and the words that are used within the
industry.

So the opening section is called The
Production System. And essentially here what I'm
trying to describe is modern hog barns are complex
systems. They require a high level of husbandry
and management skills. And combining that with
the latest in technology and good genetics, hog
producers in Manitoba rank amongst the top
producers in the world for productivity and
quality of finished animals. We copy a lot of
stuff from across the world and have improved upon
it and we are a model of production for many
Back in the 1950's, a lot of farms were mixed farms. They grew a little bit of everything. That's changed over the years. When you raise pigs outdoors, we had a few pigs per farm, productivity was low. Sows would crush their piglets. It wasn't a comfortable life for the bigger pigs. There was frostbite, hairless ears, insect bites, sunburn and so on.

Over the years, we adopted some new technologies, one is the controlled environment house. And in the last 20 years, hog farming has become more specialized. The average farm now has about 500 sows. These pigs are now raised through different stages in different barns according to where they are at. So in other words, for a pregnant sow, you keep them in a gestation barn or part of a barn called the gestation area. That sow will then deliver piglets in a farrowing room. That room will have supplemental heat and a floor surface and so on. And the piglets are then raised in the nursery barn. And then once they reach a certain weight, which is around about 27 kilos, they are moved to a feeder barn where they are raised to a market weight of about 113
kilograms or 248 pounds. So there's the various types of barns.

And some operations, they are called "farrow to finish" where they have all these different barns all on one site.

These pigs today are raised with fewer diseases than years ago. They have biosecurity programs in place. The barns are sheltered. The environment is computer controlled. Water is treated and tested and so forth. These are high-health farms.

In the next sections, I put in a long description in here about the breeding barn, like gilts, how they give birth, how they are looked after, the various management techniques.

Then we move over to gestation barns. In those, you'll have two types of systems. You'll have these individual stall systems which have been developed based on recommendations from 30 years ago from the veterinarians as to how to look after these animals. And there's been some improvements in the new system called Loose Housing Systems. And some of the industry is looking at adopting those for gestation barns.

And then we move over from gestation...
over into farrowing barns where the animals actually give birth. And these are quite complex systems in terms of how the sow is looked after, the piglets are protected and fed and so on.

I put in some discussion about piglet care and the various husbandry procedures that they go through with them.

And then when we move over to the grower-finisher barn, these are feeder pigs. These are well-ventilated. The pigs are kept clean. They have a dry area to lie in so they can rest and eat. And the manure is removed from the production system. And then after they reach their finished weight, they are then transported at roundabout 248 pounds or 113 kilograms in specially designed trucks to ensure they safely arrive at the packing plants.

In terms of the hog industry, in terms of some statistics, I have provided a whole variety of stats here. And the numbers have increased considerably in the last 20, 30 years. And I've got a chart I've put up here to show the complexity of the hog industry. I'm not going to go through each of the different sections. But just to illustrate the significance of the
industry in terms of capital costs, they spend $450 million a year, for example, on feed. We use 1 million metric tonnes of barley each year for feeding the animals plus other parts of their ration. We import breeding stock and so forth.

Total pig production, you know, this is in 2005, it's about almost 9 million head worth a billion dollars in production. And then we show how it's sold. Export to the United States, go through the slaughtering plants, the capacity and so forth.

A key change occurred in 1995 with the change in the Crow's Nest Pass grain subsidy. That was a series of changes under way and that added to the pressure to change in the hog industry. And we move to an open market system and new hog slaughtering facilities were built to meet both the demand for -- in the United States, we saw an increased demand for feeder pigs and weanlings out of the U.S. Corn Belt. In this period, from the mid 1990s to the early 2000s, growth approximately was about 12.6 per cent per year. That contrasted with the previous decade of about 4.6. And since about 2004, 2003, it's actually slowed down. We're running now about 2
17

per cent as an annual growth rate for the

industry. That's a key point we want to make.

This word exponential keeps getting used all the
time.

I provided some information here on
the number of pig farms, the type and location,
how many commercial operations we have and the
percentage that produce weanling pigs and so
forth. And some of these are based on census
figures and some are from information that we
gathered because of our ability to collect a levy.

Just a key point I want to make is
that 51 per cent of the total number of operations
has sows. In other words, half the operations had
sows, the other half are feeder barns. And these
operations are of various sizes but about 27
barns -- sorry, I should take that back, 75
production units have more than a thousand sows
per unit. And when you go over to the finisher
side, the barns are smaller but they account for
half the barns in the province.

And in terms of farm location, we have
a graph here that shows the various numbers
located by agricultural region in the province.
And as you can see, like region 9, for example,
has more than most of the other regions in the province. And we have a map that we'll put up to show distribution. And you can see a significant proportion of the industry is located in the eastern part of the province.

One of the questions that comes back all the time is about pig densities, and we provided some information here.

Manitoba pig producers export 43 per cent of all their pigs, but these are the little pigs that we export. We ship a lot of little pigs. When you take those into size and the amount of land that we have, Manitoba's pig density is about 40 per cent less if you use these, rather than just looking at numbers. You look at actual weight, it's a different matter altogether.

In terms of pig inventory, one of the issues that keeps coming up from the media is that we have 9 million pigs on the farm. Well, we don't. At any one time, we might have in the province, according to statistics here, 2.96 million head as of January 1, 2007. Our core herd is the sows. It's about 378,000 sows on the farm. And from those, that forms the basis by
which we produce weanlings or finisher pigs.

At any one time, one million of these are newborn or weanling pigs weighing less than 20 kilograms. This is a significant number to use because of the potential impact on the environment.

Another three-quarters of a million of these pigs at any one time weigh between 20 and 60-kilograms. And then of course in the finisher category, we have about three-quarters of a million.

Moving on pretty quickly here. I have provided some graphs on pig production and how we compare with the rest of Canada. I took the value of production and compared to various other crops and so on. As you can see, hogs are a major sector in terms of the whole total value of farm production in the province.

In terms of pig marketings, in 1967, Manitoba hog producers were organized into a Hog Marketing Board. And then July 1, 1996, the marketing authority was taken away and producers had the option of marketing in an open market either to brokers or directly to processing plants.
I put in some statistics here on the exports and various sale types and so on. And you can see that most of our production gets sold down to the United States. 3.8 million hogs are killed in Manitoba provincial plants. But we ship 3.8 million weanlings directly into the United States. And we actually ship 1.3 million slaughter animals into the United States into their smaller plants.

In terms of farm cash receipts, the swine industry is the largest source of cash receipts in terms of providing some information here on feed use. And you can see that we buy $450 million worth of feed in 2005. And that’s total feed in terms of grain and the various protein supplements and so on.

If we were ever to increase our numbers by finishing all the weanlings in the province instead of exporting them, then our consumption would move to 3.3 million tonnes.

In terms of hog slaughtering in the pork processing industry, I provided some information here in terms of the context and in terms of the food and beverage processing industry, that sector is worth $3.3 billion to the
provincial economy. And in that, $1.1 billion is meat and meat products, and it is mostly hogs. It's 90 per cent mostly hogs. And as you can see, we export to Japan, the United States, Mexico, Australia, and 28 other countries.

I put in some description here about the history of our meat processing plants. Essentially, we have a plant in Brandon, we still have slaughtering and processing plants here in Winnipeg, and a slaughter and processing plant in Neepawa. And there's various numbers here. It should be noted that the Brandon plant is in a period of expansion and they hope to get up to 4, 4.5 million pigs after their expansion in terms of handling slaughter. Some rationalization of their plants in Winnipeg.

In terms of background here in terms of the hog slaughter until the early 2000s. Essentially, Manitoba pig operations can produce more than enough pigs for slaughter in the province if all our plants were at full capacity, but 58 per cent of these pigs are being shipped to the United States and other provinces.

I put in a section in here on trade. A little bit of a description in terms of how
Manitoba fits into the Canadian situation. The key thing here is we're very dependent upon exchange rates, and you'll see this when we get into other parts of the presentation. The Canadian dollar plays a major factor, the value compared to the United States dollar in terms of how our industry performs. And I put some information in there on that.

We've actually dropped down in terms of being an exporter of pork. The larger provinces are Quebec, Ontario and Alberta by percentages.

I put a section in here on prices and returns to give you an idea of what the sustainability of this industry is from an economic perspective. That's why a lot of these statistics are in here because of the three parts to developing a sustainable industry.

Weanling pigs are a challenge. And currently, it's very attractive to send them into the United States and it's been a good market for our hog producers here. In the long run, we would like to see more of these finished here in Manitoba if we can get the right combination of prices and exchange rates.
Feeding costs will also be a major determinant on how much feeding we do in the province. And the imposition of government regulations and so on, if they are not handled right, we'll have a significant impact in terms of our net returns as well.

In terms of change and stuff like this, as we see with changes in feeder prices and Canadian dollar and so on, the sector that will probably be able to weather it better than most will actually be the weanling producers simply because they don't have to incur all the feed costs.

Now to move on, move into the section of -- sorry.

MR. MOTHERAL: Just going back to the start, and you may have said it, this check off for Manitoba Pork Council, is that mandatory?

MR. DICKSON: Yes.

MR. MOTHERAL: Is there any possibility, can somebody volunteer to go out and not be part of it?

MR. DICKSON: No. Under the marketing regulations, pigs are regulated product. You have to be registered with us to be a hog producer in
MR. MOTHERAL: Thank you.

MR. DICKSON: The first section is on nutrient management and there's an executive summary provided for you. I will leave that. The key point I want to make here is nutrient management, that's management of nitrogen and phosphorus, in the animal-plant-soil system was examined using the pathway of flow of nutrients in the animal system and the pathway of the flow of nutrients in the plant-soil system using nutrient cycles. So that will give you the model by which we'll go take a look at this.

And I will turn to the section on management of nitrogen and phosphorus in the animal system. We provided a little diagram there to show you how this flows. Most of the nitrogen is in the diet of the pig as a protein. And these are made of amino acids. These amino acids' composition don't precisely match the animal requirements. And as a result, the animal excretes the excess nitrogen. And 40 to 75 per cent of the nitrogen ingested is actually excreted. And this is typical of the mammalian systems.
Moving on. Some of that nitrogen that's excreted is in the form of ammonia and that can account for 30 to 40 per cent of the excreted nitrogen. That will be present either in the barn or from the storage structure.

I'm outlining here a series of strategies to how we've been trying to reduce that nitrogen excretion and the volatilization of the ammonia. And we have a variety of strategies that have come forward or are continuing to be adopted throughout the industry. One is, in terms of the actual nitrogen excretion, but trying to reduce the dietary protein content. We're trying to increase the dietary energy so that with less feed, they actually get the energy they need.

Trying to use different types of non-starches to reduce -- to increase that energy component. And the big one of course is phase feeding where you match the protein requirements of the animal according to its growth curve. As you get older, you need less protein to put tissue on.

In terms of ammonia emission from the actual storage facility during handling. Exposure to air is a key item. And here we need to take a look at how we can combine things like frequent
barn cleaning covers and so forth. Covers have
definitely been shown to reduce the volatilization
of ammonia and you could have straw covers or
plastic covers and the range is from 60 to 84 per
cent in terms of reductions. About 15 to 20 per
cent of the hog applied to land in Manitoba is
protected by straw and plastic covers during
storage.

In terms of phosphorus. Most of the
phosphorus fed to hogs is in the form of phytate
which is actually in the grain. This is not
easily digestible and therefore we've had to add
inorganic or more bioavailable source of phosphate
to the diet. Pig rations normally contain between
.6 and .8 per cent of total phosphorus as phytate
and we've had to supplement with inorganic
phosphorus. 50 to 60 per cent of the phosphorus
in the ration may be excreted in urine or in fecal
material.

And then we have some strategies to
reduce phosphorus excretion. And a core point
here you'll probably run into is when we try to
apply manure as a fertilizer based on the nitrogen
standard, we run into an imbalance with the amount
of phosphorus that's in the manure. And so the
issue now is how to bring that phosphorus back into balance so that we can meet crop nutrient requirements.

By adding phytase, which is an enzyme to the ration, you can actually reduce the requirement for phosphorus in the diet. We can actually -- the content of the feed can be reduced to about .4 of the total phosphorus in the ration.

Phase feeding has played a key role and I have provided some information on that.

And by using these strategies, a 50 per cent reduction in dietary phosphorus requirement is achievable. And the industry is in the process of doing that right now.

60 per cent of all hogs produced in Manitoba are fed diets with the phytase in the ration. One of our blocks, and I point this out in the paragraph, is that the regulations under the federal regulations on feed require a certain addition of phosphorus to meet the federal standards. And Canadian Pork Council some years ago asked the federal government to take a look at changing that regulation to account for the fact that we now use phytase in a ration.

In terms of management of nitrogen and
phosphorus, we want to point out the application of manures to crop land is one of the best methods of recycling plant nutrients. Plant nutrients removed from the soil in the harvested portion of crops is fed to the animals and then returned to the soil as manure.

And I put in the various calculations and charts here about the amount of nitrogen and phosphorus that are produced from manure from the hog industry. And our calculations are total nitrogen excreted, and that's excretion, is about 30,000 metric tonnes of nitrogen. We have about 4.7 million hectares of land in the province. And if you include tame hay, it's 5.36 million hectares. If you put on a moderate application of nitrogen, we would use 9 per cent of the land in crops and hay. Now this is based on excretion. About 30 per cent of the nitrogen is volatilized and therefore you can reduce the land requirement to about 6 per cent of the land in annual crops.

And to give you some perspective on this thing. Sales of commercial nitrogen fertilizer in the province are 300,000 to 350,000 metric tonnes. The total amount of nitrogen excreted by hogs in Manitoba is approximately 11
per cent of the amounts of nitrogen added to commercial fertilizer in 2005.

The amounts of phosphorus added as a fertilizer in 2005 was approximately 46,000 tonnes, according to the Lake Winnipeg Stewardship Board. And this is phosphorus, not phosphate. You have to use a multiplier to get the phosphate. The hog industry, according to this report, excreted 11,000 tonnes of phosphorus. The land area required for recycling of phosphorus at crop removal rates of 15 kilograms per hectare per year is 733,000 hectares or approximately 15 per cent of the land in crops. The nutrients excreted in manure are used and should be used to replace nutrients purchased or imported as fertilizer. The problem is not too many nutrients in soil, the problem is lack of adequate distribution from areas of high livestock density to areas of mainly crop.

And then we put in a series of charts here about the content of manure. The key thing here too is we'll talk later about the regulations and so on, but we provided some charts here showing the nitrogen cycle, the phosphorus cycle. The key thing here, most of the added phosphorus,
but it undergoes reactions with the soil and is
thus held in relatively insoluble and immobile
forms. And clay soils have a high phosphorus
retention capacity.

And then we put a chart in here
showing if you allow the level of these nutrients
to build up in the soil like phosphorus, you can
actually start to see movement or increased levels
of soluble phosphorus entering into the
environment.

This issue has been identified a
number of years ago. And through much discussion,
the province has introduced an amendment to the
manure regulations dealing with phosphorus and
also with commercial fertilizers and so on. And
these limits are all described here in the report.
And my understanding is you had met with Manitoba
Conservation and they've gone through these
regulations with you.

In terms of transfers of nitrogen to
the atmosphere, one is through volatilization and
also from denitrification of the manure in the
soil in the form of nitrous oxide. We also
outline here various strategies to reduce
transfers of nitrogen from the soil to the
atmosphere. Pointing out like 70 to 80 per cent of the liquid hog manure in Manitoba is injected directly into the soil which reduces volatilization. As long as it's applied at the correct rates, they can avoid groundwater leaching. It's very unlikely that environmentally significant amounts of phosphorus, unless large amounts are added over a long period of time, that we're going to see any leaching. It's maybe of concern in high soil test phosphorus levels in certain soils, especially those with tile drainage. But if extractable phosphorus levels are maintained at levels suitable for crop production and at levels at which risk of phosphorus transfer via run-off is low, leaching of significant amounts of phosphorus is very unlikely.

We talk in here about clay soils and how they contrast with sandy soils and so forth and some of the uses of things like forage crops and so on. And we talk about how recharge occurs. We'll touch on that later on when we talk about groundwater supply.

I move on to a section called strategies to reduce transfer to groundwater. The
key here is the best strategy to minimize leaching of nitrate is to maintain as low a level of nitrate in the soil as feasible and to treat sensitive areas with due diligence. We talk a little bit here about forages and the key role that they can play in some areas where the nitrate seen in sandy soil has moved down through the profile and they can be recovered.

In terms of transfers of nutrients to the surface water, run-off and erosion are the major pathways. Soil type greatly affects run-off and erosion. And slope, steepness, proximity of fields to ditches and so on, perennial forages will increase the infiltration rates, which means they can reduce the potential for run-off. Reducing tillage systems can reduce surface water contamination when nutrient transfer is mainly by erosion but it may be ineffective in reducing nutrient transfer when it's in a soluble form. Different soils have different capacities to hold nutrients. And there's various descriptions in here about this transfer process and point sources of phosphorus and so on in the environment.

We'll keep moving. Strategies to reduce transfers to surface waters. The thing we
want to say here is that these are difficult and we need more work done in terms of research. The trick here is to maintain soil nutrient levels below threshold environment levels. And on that, we have the regulations in place that can provide some guidance on that.

And then I repeat here some of the techniques in reducing and then improving this ratio from nitrogen to phosphorus for crop nutrient balance.

In the next section, we provide stuff on crop growth and nutrient uptake. Just a point here. Injection of liquid hog manure has consistently resulted in greater crop nutrient recovery and yield compared to broadcast and incorporated methods. Phosphorus in hog manure is a good source of phosphorus for crops.

Now, the key part of the presentation here is on nutrient budgets and balances. Johnston and Roberts have provide a very detailed analysis of the agricultural regions of the province and we will see that on table 9. And if you look through that, you can see the different regions as to what balance they are in terms of phosphorus in those particular regions. And you
can see, for example, region 9 has an imbalance of 23.3.

The issue we're trying to get here is that livestock production, from a phosphorus replacement standpoint, could be increased substantially in most areas before inputs of phosphorus exceeded outputs, providing fertilizer phosphorus use declined. And I think what we're trying to get at here is that we can get a better balance in most of the districts here by simply cutting back on the amount of artificial fertilizer that's applied and start treating the primary source of phosphorus from manures and then adding artificial rock phosphate to those areas where we need it.

And there's another study that was done in four Manitoba municipalities, Hanover, La Broquerie, Roland and Sifton to to give you a comparison between the different districts and how much nitrogen and phosphorus is in their soils in terms of inputs and outputs, the various losses through volatilization, denitrification and so forth and what residual levels they have. And as you can see, some areas of the province actually have deficiencies in various elements.
This study showed that a small part of Manitoba has a positive imbalance between inputs and outputs of nutrients. Strategies to reduce inputs and increase outputs of nutrients is needed to increase environmental sustainability.

Now, in terms of strategies to maintain nutrient balance, the four key methods here. One is to reduce the inputs of nutrient in feed by using phase feeding, manipulation of diets, use of enzymes to reduce overall inputs of nutrients. Two, use crops with high nutrient demand and maximize fertilizer yield to increase nutrients. Three, minimize the wastage of feed and maintain good animal husbandry to maximize gains in weight per unit of feed. And then use better genetics when ever possible.

Now, that was on nutrient management. Then we need to move over and look at manure management. And the key thing here is, how you handle manure depends on whether it's a solid or it's a liquid. And I have provided a chart here describing the various methods of collection, transfer, storage, treatment, utilization, depending on the type of manure that they are dealing with. And it's absolutely fundamental to
the sustainability of a farm that you handle the
manure. It's one of those core management
activities that has to be attended to properly.
The design and management of these
systems is to ensure that they prevent leakage to
the environment, that they provide an appropriate
level of odour control, and have sufficient
capacity to provide flexibility for the timing of
land application operations. And many operations
have been designed by professional engineers.
There are a variety of requirements under the
livestock manure and mortalities management
regulation dealing with construction of these
things. They all have to have permits, and these
permits ensure that the requirements of these
structures are designed to protect surface water,
ground water and soil. Not only do the manure
regulations have to be considered, also the
proponent has to look at what requirements the
local municipality might have, how close are they
to fields for application, what would be the
impact of nuisance odours, should they use
existing trees and bush, plant additional shelter
belts? Most liquid systems hold 300 to 400 days,
at least the larger ones do. And this is to allow
flexibility of timing, because we have this narrow
window of opportunity to spread in the spring or
the fall. Water use consumption is carefully
monitored, because essentially you have to store
it at the other end. So to reduce costs, one is
very careful about how much water one uses in a
barn.

Typical structure in Manitoba is an
earthen manure storage structure, and we provide
some little diagrams here to show how these look.
They are all carefully engineered. They are
inspected during construction, and all the details
in terms of compactions and porosity and so on are
all embodied in the regulations and have to be
inspected by a third party.

In terms of solid manures, there's
been new regulations come forward in terms of
dealing with field storage and many producers are
now being brought in within those regulations.
And the concept, we'll talk about it later, but
all producers have to follow these regulations
regardless of size.

A new development is being the use of
hoop structures and quonset shaped metal
structures. These are covered with polyethylene
tarps. They also have to be careful where they store the manure and so on, both inside the barn itself and when it's excavated out and a new crop brought in.

Manure storage structures, if they were built before 1994, are now required to be registered with Manitoba Conservation. Any other structures now have to be registered as well. And I've outlined some of the details in here.

In terms of the manure management plans, I think it is a core part of the regulations. The purpose of this regulation is to prescribe requirements for the use, management and storage of livestock manure and mortalities in agricultural operations, so that livestock manure and mortalities are handled in an environmentally sustainable manner. And that's the core part of how these plans are developed. So I want to emphasize this issue of environmentally sustainable.

In terms of manure management plans, we provide some details here how they were registered under the Environment Act in 1994 and there's been various amendments since then.

As of November 2006, the Department of
Conservation has been dealing with 488 manure management plans, of which 398 belong to hog operations. According to our statistics, there are supposedly 424 potential operations. We don't know who these other 26 are. All the operations we know are registered.

Operations below 300 animal units don't have to supply a manure management plan unless so directed, but they are bound by all the various regulatory requirements in terms of nutrient to the environment and so on.

If the farmer doesn't fill in his own manure management plan and he has it done by somebody else, there are requirements in terms of being a member of an appropriate professional body and these people have to have some training. The key point here, all these plans have to be filed prior to land application. And then we have a huge section in here on land-based requirement calculations and how you go about it. And what we're trying to do here is to show that there is significant effort to prepare these manure management plans. It's not an easy task to go through.

Then when you get into the actual
application the field, we provide the various
descriptions of systems there. For example, the
manure has to be agitated, there's manure on-site
sampling, the application method is actually
monitored, records are kept, and Manitoba
Conservation does the general monitoring and
enforcement activities. And there's various
statistics, various issues that have to be
reported are listed out as the final section.
I'd like to move on to land use
planning as the next title. Sorry, questions?

THE CHAIRMAN: Nothing at this point,
thank you.

MR. DICKSON: We are going to be going
to land use planning and we would ask Peter Mah
here to deal with this.

PETER MAH, Director, Community Relations &
Sustainable Development, Manitoba Pork Council:

MR. MAH: Thanks very much, Andrew.
What I'd like to do over the course of
the next few minutes is just walk you through
basically what the provincial and local
requirements are with respect to land use planning
and the development approvals process. I think
it's a good, safe bet to say that at many of the
public meetings that I've gone to at the local level, and even within the City of Winnipeg, many people do not appreciate, nor do they know all the rules and regulations that are in fact in place to regulate hog production. So I will walk you through very briefly a little bit about the origin and the evolution of the land use planning, because I think it gives you some sense of where we have been and where we are today, to provide context. I would like to spend a little bit of time on the new Planning Act which came in on January 1st of 2006, and in particular the reference to the local livestock operations policy which is mandatory across the province, and at the same time give you some sense of how those policies are actually guided by the set of provincial land use policies which is very critical to a whole host of provincial interests, and then walk you through, in a chart form, the actual livestock approval process.

Near the end what I'd like to do, Mr. Chairman and commissioners, is give you some of my own opinions relative to current weaknesses with the process. I'd like to outline an alternative, which in many ways is not a major
alternative, but I think some tweaking, which we believe would provide some better balance and remove some of the controversy that we see time and time again at the local level. And then I'd like to wrap up with some comments about what I would refer to simply as a comprehensive safety net, a basket of rules and regulations which all intertwine, basically, to provide the confidence which we believe the hog industry is working through and the public can have the confidence in that the environment is in fact protected, and then close off again with some minor points on closing comments. So maybe with that, if I can just stand up for a minute. Hopefully this works, if I could sort of move around, let me use this little pointer from time to time and maybe it's best if I stand over here.

First off, in terms of the actual Planning Act itself, it was first adopted in 1975. At that point, the province had instituted the Planning Act really to institute subdivision control over land division. At the same time, we empowered municipalities to enter into local planning and come up with basic planning statements, BPS's, which today has been supplanted
by development plans and zoning by-laws.

Over the course of time, the Planning Act was adjusted in 1988 by the adoption of a set of nine provincial land use policies. And those provincial land use policies enunciated clearly what the provincial interest is and was at the time relative to the development of land. And it had nine policies with respect to general development, development around urban centres and villages, agriculture, renewable resources, water and shore land, recreational resources, natural features and heritage resources, flooding and erosion, provincial highways and mineral resources.

So you can see back then, even in 1988, that the province had already been thinking about trying to integrate all of the resource conservation interests with land use planning and development.

In '94, it moved on to add in, as a result of what we call COSDI, the Consultation on Sustainable Development Implementation, which was a very public process back then, to look at adopting a set of principles and guidelines of sustainable development. Of course, as you know
today, we have the Sustainable Development Act that balances social, economic and environmental development. So this has been embodied into the provincial land use policy.

And then most recently in 2005, you may recall that the provincial land use policy number 2, which is specific to agriculture, went through a major amendment basically to adopt new provisions relative to livestock, and in so doing had set in place a minimum mutual separation standard. Now this is very, very important. What it did basically is provided the guidance and the farm practices guidelines, it said, based upon those guidelines which have adopted and recommended by a multi stakeholder committee, who adopted into regulation and provided a guidance, a minimum base of separation standards right across the province. And then, as we know, during that period of 2004/05, there is extensive consultation right across the whole province from municipalities, special interest groups, agriculture, environmental groups, conservation groups, on the design of the new Planning Act which was at the time dubbed as Bill 40, and subsequently came out with a new act called Bill
While Bill 33 came to be on January 1, 2006 was enacted. It provided, in essence, to maintain a dual role in planning between local authorities, which could be local councils and planning district wards, and in fact a partnership with the province, a dual role. And basically what it said, while about 98 per cent of land use planning in Manitoba, municipalities in Manitoba, roughly had been involved in planning, the Planning Act said, from this point on, land use planning is mandatory for every municipality in the Province of Manitoba. And in so doing had mandated that by January 1st, 2008, which is not really that far off, that every municipality with an agricultural interest must prepare a livestock operations policy. So it must go ahead and proceed. And I'll talk a little bit more about that.

One of the key fundamental areas which the new Planning Act clearly defined was, as a foundation, was a clear role and responsibility between local municipal government and the province. In the case of municipal government, it was felt that land use jurisdiction should be the
jurisdiction essentially of municipal Manitoba, municipal councils who were duly elected, who know the area perhaps better than anybody else, certainly anybody in the City of Winnipeg and politicians, knew it had a sense and pulse of the community in terms of goals, objectives and their aspirations, and so could better balance the issues of local land use. Now, comparatively speaking, when you look at the province, it was felt through the consultation process and adopted by province that the responsibility for environmental protection should rest with, and this is very important, rest with the province. Because technical issues, the complexity with the environment doesn't rest with just simply municipal units. You are talking about drainage, you are talking about water, you are talking about air, you are talking about the general environment which can transcend in most cases municipal boundaries, sometimes provincial jurisdiction, sometimes international boundaries. And so with the expertise that's required to be able to effectively monitor, effectively control and administer environmental protection measures, that was left to the province.
I talked about the livestock operations policies in Minnedosa. This is now mandatory right across the province. January 1st, 2006, we're already a little over a year into it and we find basically that we're finding that it's fairly slow, but basically the idea is that every municipality is to set standards for siting of livestock and specific set-backs for livestock operations in their respective areas, again basing it on the provincial land use policies, but there's an opportunity for municipalities to notch up, if you will, those standards that they felt appropriate.

Mind you, there is some limits to that. Those limits are that the provincial land use policy says they must be reasonable and they must be generally consistent with the provincial land use policy standard, but there is some latitude.

At the same time, they are supposed to look at their land base, the municipalities and the communities are to look at their land base and say whereabouts, based on existing land use, on future land use plans, on natural resource features, where are those areas with which...
livestock would and should be developed? And conversely, what areas should not be developed for livestock? And so they could designate certain areas where livestock of a certain size could be allowed outright, if they met certain standards, or they could be regulated and allowed up to a certain maximum. And in the case where they are not allowed, for instance, historically, and we are seeing over time around urban centres, a buffer area around urban centres, around designated recreation sites, cottage areas, and this type of thing.

Well, how well are we doing? Progress and updates. A conversation with Manitoba Intergovernmental Affairs recently, they have indicated that they know municipalities have embarked on process for these livestock operations policies, but unfortunately and regrettably, things are slow. It may well be for a number of reasons. It could be, for instance, because municipal elections were held last year in October, and typically local decision-making starts to stall before an election and certainly takes time for it to gear up right after an election as new officials carry on their new roles
and become familiar with them. At the same time, some of them, quite honestly, might be looking for some indication of what this particular Commission might be coming up with in terms of results.

The bottom line is, we're having a number of municipalities that are working on it, but at least one-third, as I understand it, haven't even begun yet.

So what are the implications? Well, first of all, we do know that the provincial land use policy already sets in place the minimum siting and setback requirements, and have already, by outright, have prohibited livestock operations on certain lands, class 6, class 7, and unimproved organic soils, that is outright prohibited. So we have that as a base.

So what's the bottom line? If you look at the number of regulations that are in place under the Planning Act, and those regulations that are now at the local level that still need to be updated but they are still in place, you've got livestock applications that are still being regulated. It's not today that we're starting from zero. We have in fact a very substantial base of regulations for every
livestock operation, be it chicken, cattle, hogs or whatever.

Well, here's an example under table number 1. Table number 1 actually shows the separation distances from that provincial land use policy number 2. And rather than go through this whole chart, I just wanted to point out and illustrate what it says. First of all it says, based upon size of a livestock operation based on animal units, and I'm going to use the example of 201 to 300 animal units and go across this column here, it will determine the minimum separation distances between, in this case, an earthen manure storage facility and a single residence. A single residence, no other place do you see that for any other development, for a livestock operation from single residence not connected to the operation. Also, there's a certain distance, in this particular case 200 metres from the barn and from a non-earthen manure storage facility. So in this particular case here, we're talking a quarter mile, here 200 metres is one-eighth of a mile. In case of a designated area, and that is designated under the development plan, a recreation area, an urban centre, a rural residential designated area,
we're talking in this case here, a 300 animal unit operation must be at least 1 mile away, 1 mile away or 1.6 kilometres. Or in the case of a barn itself, it must be a little over one kilometre or two-thirds of a mile away. Those are significant distances which bottom line are in place.

The other thing I should just point out as well is that the intent of the provincial land use policies were those distances to be mutual separation distances, the intent of which is that if you have an existing operator that has a farm, invested time, money and effort into the enterprise, raising a farm family, that that enterprise in agricultural land needs protection. So that rural residents should not be able to come in and violate those separation distances, which are going to potentially pose conflicts, not only for the operation but in future for the rural residences. So clearly these are to be intended to be mutual separation distances.

Let me just go on. Other things that people typically do not know that are already included under the Environment Act, the manure and mortalities management regulations. I have gone to countless meetings and the people, they are
surprised by this, and yet this has been in place for many years. It says, first of all, for siting and construction requirements for manure storage facilities, whether above or inground, that you have to be at least a minimum of 100 metres from any surface water course, sink hole, spring or well, or the boundaries of an operation. That comes as a surprise to many, many people.

Schedule B. Well, we know first of all that we're moving away from winter spreading. And for the large part, there was a large part of the Red River Valley special management area, which was adopted on November 8, 2006, a huge area that was inundated by the last major floods which no longer can you spread manure -- up until a certain time, there's a transition period for a few years with which to be able to have those existing operations ensure that they can adjust. But any new operations, any new expansions cannot spread in the winter time. The winter time basically is a period between November 10th of one year and April 10th of the other. So there's a five month period with which they cannot winter spread. And you will see as time goes on, year by year, that more of the producers who are currently
exempt going through, and currently they are
basically smaller operations of 300 animal units
or less, or those between a barrier of 300 to 400
animal units will have a bit of, a few years in
which to comply. But anything over 400 animal
units, there's no winter spreading.

Let me go on to one more thing. In
the case of spreading, basically they have to stay
a minimum of 10 metres away from any property
boundaries. But, again, relative to slope, there
is a scale, if you will, where again the distances
increase from manure spreading, depending upon how
the slope is. So if you look at the last one here
where the land is anywhere from 6 per cent or
more, and less than 12 per cent slope, you've got
to be at least 450 metres away from any surface
water course, sink hole, spring or well. Anything
over 12 per cent, you're not allowed to spread.

And then I'll just move very quickly
now to again set-backs from surface water and
surface water courses. Again, depending on the
features, depending upon the manure application
method, there is certain set-backs that are based,
either with vegetated buffer strips or
non-vegetated. Again, the point is that you've
got a tremendous amount of regulations in place
that would, first of all, influence the siting of
an operation, and then thereafter the operation of
the operation on a daily basis.

This livestock operation review
process, I'll quickly run through it. Basically,
the application is put forward to the RM, and as
Andrew has indicated already, there is a
tremendous amount of due diligence prepared by
farm operator in siting, picking the right site,
doing the engineering test, soil tests, preparing
the application, and getting that before council.
What happens is that application goes to the
provincial technical review committee for a report
and recommendation, comprised of Manitoba
Agriculture and Food, Water Stewardship
Intergovernmental Affairs and Manitoba
Conservation. These specialists review that and
then provide that report, not only to the public
and to the council, but to the producer, and then
there's a public hearing for conditional use.

Now, I'll say this here: This
conditional use process, I think, time and time
again, I've seen it very, very contentious. It
pits opponents against proponents and supporters.
It's an adversarial process, and I think there's a better way. In any event, I'll talk about that in a minute.

Basically, as you go through it, that application must go through this process. And if it meets certain criteria, it can be approved with or without conditions, and invariably it's always with conditions.

Even if a local permit is in fact issued by the local council, it is still subject to provincial approvals on the environmental front, in terms of water rights licence, in terms of the manure storage permit. In each and every case, engineering requirements and analyses is required.

If those issues, if licences and the permits are issued, between the three of those, permits, licences -- and it signals the proposal can proceed to construction. And so at that point the operation proceeds to construction, and still again, as I have mentioned, must comply on a day-to-day basis with regulations.

I'm just going to skip this chart here, it talks about the actual TRC process. But I'm going to move now towards what I think, just
to wrap up here, in terms of predictability and
consistency, we believe that the up-front local
livestock planning is an excellent, excellent
vehicle. The local livestock standards, policies,
the consultation process with the public is
essential, but we note that the conditional use
process, like a court, is adversarial. And we see
that time and time again, the emotional debate,
and some innuendos, and not perhaps always
fact-based information comes forward, and not
enough good science to be able to balance it. And
we see time and time again that applications are
denied for inappropriate reasons.

However, local council has the hammer,
if you will, the decision making. And they have
two tests with which to be able to determine
whether in fact that application should be
approved; a test of compatibility with the local
area, is it land use compatible; and secondly,
whether it's detrimental or not to the health and
welfare of the general residents in the area.
Those two criteria, I have to tell you,
Mr. Chairman and Commissioners, is subject to
emotional debate and the NIMBY syndrome, "not in
my backyard." And this is where it starts to
break down. And local councils, and I know some
of the Commissioners have been on council before,
you know darned well kind of pressures that are
brought to bear upon special interest groups and
by local citizens who are ratepayers who object to
a proposal and supporters in many ways remain
silent.

Let me go to what I think is what's
happening here. I think, basically, when you look
at denial and fairness, a livestock application,
and this is important to realize, that a livestock
application today, apart from the pause, could be
denied despite meeting all provincial requirements
and all local requirements. And that's with
respect to all of the policies in place at the
provincial level and at the local level. It can
meet the siting and separation distances, it could
meet the minimum setback requirements. And in
fact, through the engineering, design and
monitoring, it could meet all of the construction
requirements. And yet the process is flawed to
the point where, without any reasons, a municipal
council can deny that application based on those
two tests of compatibility and health and welfare,
and without any appeal, without any appeal to the
proponent and any of the supporters. Now, we
question whether that is fair.

As an alternative, we think again the
up-front local planning is good. We believe it
should be using reliable resource information as
much as possible backed by good science. We feel
the extensive public consultations are balanced
with community objectives and values is extremely
important, because that's where you start to
tailor your policies and development standards to
your area. But we believe that one of the things
that you could do is recommend to the province to
tweak the Planning Act so that you can identify
and zone the best areas for livestock. Areas
where -- and the best land use characteristics,
sparse population, you've got good water, good
drainage, level, fairly level land, heavily
forested perhaps for some screening and so on.
You could find these areas and at that point
determine from your livestock policies where they
should go, what standards it should meet. And if
those proposed applications meet that criteria, we
believe that they should be able to proceed and
apply for a development permit, because they have
met all the requirements, provincially and
locally. What more can you ask for? And so we
believe that that should be put in place.

For all other areas, we believe that
the conditional use process probably is
appropriate, because there is a mixture of land
uses that still needs to be adjudicated, if you
will, by local council. In each and every case,
either of those two applications in those
processes would still require provincial approval.
That's the basis.

Section 118 says no development can
take place until all permits are obtained from the
province and so on, and all conditions are met.
So that is a safeguard.

Let me go on. There is the list of
other acts that apply. So it's not just the
Planning Act, it's not just the Environment Act,
livestock manure and mortalities, it is a whole
host of other things. Those permits, licences and
so on must be obtained.

So what does it mean? It means that
there's a comprehensive safety net, we believe,
that the public can be assured that the
environment is protected if we go through this
local and provincial process, this dual role that
I have talked about.

We have had extensive public consultation over last two years. We are back in the Clean Environment Commission, with all due respect. We've asked the public for more comment. And what we really need at this point, basically, is to move on to fully implement the improvements that have been sought after, have been negotiated, have been adopted, and in fact have been proposed more coming, and we need time to do that. And we need time then to sit back, re-evaluate our success and our performance, and then see if any further changes -- or perhaps we've gone too far. I might suggest maybe we've gone too far and perhaps we need to go through this first and then reassess.

So we've got a rigorous and complex livestock approval process, for siting, for approval, day-to-day operations on the farm are regulated, we have public policies already that are evolving because we know the livestock operations policy more and more, every day, every month, will come forward over the course of the next year or so. We know the proposed nutrient management regulations have been proposed by
government, only for consultation but they are ready for adoption, I believe, pretty soon, and we know that this new water management planning system is going to be taking place within watersheds. All of those will be impacting land use planning. And I can assure you that the Planning Act already says that a local community must consider all water plans, all water management plans in the design and update of land use plans. So that's all starting to evolve in front of us.

Hog farming, of course, is subject to more media attention and monitoring than any other sector. Some people would say that's bad and some people would say that is good. What it means nevertheless is that we're going to be subject to more media attention, more monitoring by government, so people can have some confidence as we progress. And we, as an industry, start to monitor our own production, we want to ensure that we work with them to follow all of the rules and regulations and we are actively doing that.

Lastly, I just wanted to point out that the existing producers on the landscape today, through the course of time, have met all
legal siting requirements for both the local municipalities and province. This is an evolving, changing rules and regulatory regime. And what we're doing is our utmost to try to stay abreast of that. We are doing our utmost to ensure that everybody follows the rules and regulations. But you can understand that every new regulation that comes forward, every new restriction that comes forward are being proposed as added cost to the producer, added cost that might drive a young farmer off the land, that will in fact maybe make some operations less viable and forcing them, in essence, to either get larger or disappear. And so in many ways there are some downsides to more regulations. I can appreciate that there is a public interest here. I believe and we believe very, very strongly that we have a comprehensive safety net in place already.

THE CHAIRMAN: Mr. Mah, I have a question or two. You had a slide, I don't know if you can back up to, it is on page 46, a slide entitled "Denial and Fairness." Now, earlier, when you discussed livestock operation policies that RMIs are required to have in place relatively soon, those policies will set out the standards
for siting, set-backs, et cetera, they will
designate where farms may be depending -- where
they may be, any size up to a maximum, or not at
all. Now, when we get to this denial and
fairness, and you say that they can be denied
despite meeting all provincial and local, et
cetera, policies, et cetera, are you saying that
where a municipality has a livestock operations
policy in place that defines those parameters,
they can still say no?

MR. MAH: Yes, Mr. Chairman, that's
quite correct. That's what we're pointing out to,
that's totally unfair. They've gone through all
of the time and expense to prepare a very detailed
application, they have worked with neighbours as
much as they can, came forward and met every one
of the provincial and local requirements, and go
to a public meeting and through a very vexatious
process, very emotional debate, through innuendo,
through perhaps not the application of sound
science, persons could come forward, and I would
think likely will still come forward and still
object to an operation because they don't want it
in their backyard, and hence put tremendous
pressure upon a council to apply a very subjective
and interpretive way that this area is not compatible, this proposal is not compatible with the surrounding area. That test of compatibility is the subjective test.

Another subjective test, as I've mentioned, Mr. Chairman, is the test of whether a proposal is detrimental to the health and welfare of neighbours in the surrounding area and their property. If somebody can say, you know what, I live in the area and it's not compatible with my lifestyle and my residence, you know what, I don't want that smell in spite of the fact that I moved here, I should have known that there was an odour that comes from some operations, it's not compatible with my lifestyle. And Mr. Chairman, of the local council, you must deny this application because it's not compatible. And that's what we're saying that, in the scheme of things, an emotional debate puts a tremendous amount of pressure on council, and on that basis alone a council could deny that application.

THE CHAIRMAN: The next slide which is entitled "Alternative," you talk about the second and third items, use reliable resource information and backed by good science. How do we define
reliable and how do we define good science? I mean, scientists are like lawyers, they can argue either side of an issue.

MR. MAH: That's correct. I think that the bottom line is you start to look at, for instance, one of the tests for liability is, is the data, first of all, relevant to the area? Because in many cases people bring up circumstances that had happened in North Carolina as something that was going to happen here in Manitoba, in the RM of Louise? And that's not relevant. Totally different climate, different context. And so what we're saying here is use relevant information. At the same time use updated information. Don't use something that goes back, way back in history in the 1960s or something. What do we have in terms of water quality data and soil data that is current? And so that's the good resource information.

The good science, as I've indicated, is there's a lot of rhetoric out there. Some people call it pseudo science, because you go part way into it. But science needs to be peer reviewed. It needs to be balanced and it needs to be tested. And I think that's where councils and
the province rely to a large extent upon the
scientific community at the university. Because
they are the ones that have the research
background, they are the ones who do the peer
review studies, and those are the ones who are
accountable. It's not Joe citizen, nor myself. I
am not a scientist, and I can only repeat or talk
about science that's based out of University of
Manitoba or here locally in Manitoba.

THE CHAIRMAN: You have in an ad a
number of weeks ago and then your insert on the
weekend, you talk about the amount that the hog
industry is contributing to Lake Winnipeg's
problems. And it's 1 or 1 and a half per cent.
You can bring in scientists from the university
who will make that case. I can bring in another
scientist from the University of Manitoba who will
say it's whatever, a significantly different
figure. Whose science do we accept? I mean,
that's where it may be that the local council has
to make a subjective decision on whose objective
science to accept.

MR. MAH: And I would agree with that.

MR. DICKSON: There's an answer to
that. In terms of science, I mean, one of the issues is to have your material peer reviewed by your fellow scientists. And a scientist who makes a claim that is not supported by his fellow scientists, that defines what good science is. So that's why studies that are done on things like lakes and so on need to be peer reviewed.

THE CHAIRMAN: No, I agree.

MR. MAH: I think the simple answer, Mr. Chairman, is that local council has that decision making power, and we would hope that local councils, in exercising that power, would look at the pros and cons of the science, because, yes, they are going to have to make that determination.

THE CHAIRMAN: Thank you. Don't get anxious if our questions sort of eat into your time, we will allow for that.

MR. DICKSON: We'd like to touch upon the issue of ground water supply and quality, very briefly. The key thing here is the majority of hog barns obtain their water supply from wells which withdraw groundwater from subsurface aquifers. There are a small number of barns that use water from dugouts or surface water sources.
The key thing on this is under the Water Rights licensing process, this is all governed by the Manitoba Water Rights Act and regulations. This is a licensing program. The core objective is to obtain the optimum development and use of the province's water resources while sustaining the resource base and maintaining environmental quality. In other words, that's what the licence does is to make sure that happens.

Now, everybody has to get a licence except for domestic users who use less than 25,000 litres per day, and hog barns that use less than 25,000 litres a day are exempted as well. We weren't able to get a number on those that are exempted. But the department has issued, as far as we know, 215 Water Rights licences. And by our calculation, that should account for over two-thirds of the production of the province.

When they get these licences, the core questions that have to be answered, can the well supply sufficient capacity to provide the required water? Will the withdrawal of the water from this project have a negative impact on other ground water users in the area in the short or long term? And then thirdly and most importantly, can the aquifer
sustain the required supply without depleting the
groundwater resource or causing a deleterious
environmental effect over the long term? So, in
other words, the regulations ensure that we can
protect our quality and our quantity.

Now, in terms of volume, this is based
on Manitoba Water Stewardship records, the
industry has been allocated a total of 4,440 cubic
decametres of groundwater per annum under 215
water rights licences. The average annual
allocation per water rights licence is 20.6 cubic
decametres per annum. The total allocation figure
excludes groundwater allocated to mixed users --
that is people who have small barns and also have
to use it for their well, for their well for the
house -- and surface water resources. But those
are a small number.

To put this into some sort of context,
that sounds like a lot of water, the average
annual precipitation on a section of land is
presented here. And we present a little
calculation, we go through this in terms of
average rainfall on a section of land. The annual
allocation of groundwater to the hog industry is
therefore the equivalent of an average annual
precipitation that would fall on 3.5 sections of land. That's the total amount of water that gets drawn on annually, 3.5 sections of land in all of Manitoba.

Another comparison is with the City of Winnipeg, and the accusation is always made that the industry is using more water than humans and so on. In comparison with the City of Winnipeg which is authorized to remove from Shoal Lake 100 million gallons of water per day, that works out to 365 acre feet per day, although the city doesn't actually use all of this, the total groundwater allocated under specific licence to hog production amounts to 10 days of the city's authorization, to provide some context.

In terms of siting and construction, these are all governed by the Groundwater and Water Well Act and the Well Drilling Regulations, and we point those all out here and list them.

In terms of groundwater quality, other measures to protect the groundwater are also found in the manure and mortalities regulation, and those are all spelled out in here.

And we try to find, try to answer this question about contamination. And there's been a
higher level of concern and scrutiny of the
groundwater from wells. The
published document we could only find is one done
by the CEC Commission on the Village of Garson and
Rural Municipality of Brokenhead. And it stated
clearly in there, the source of the problem was
improperly constructed or maintained wells, and
malfunctioning septic tanks, septic fields, and
holding tanks. Now, that is also backed up by the
medical officer of health who stated, existing
wells contaminating the aquifer have to be
properly connected and abandoned, or abandoned.
That individual homeowners will be ordered to
correct or abandon defective wells and to repair
or replace leaking or inadequate septic fields
consistent with the requirements of provincial
legislation. And then we provide some background
information on groundwater and surface water, and
this is drawn on some American texts, and I'm not
going to go through those at all. I am going to
provide that background information.

MR. MOTHERAL: Can I stop you here for
a minute and just ask a question? You are
comparing the amount of water used to the City of
Winnipeg. Do you have any figures on the amount
of water used to the percentage of recharge from the aquifers at all?

MR. DICKSON: Well, the water drawn out is recharged. When you get your licence to draw your water down, it assumes it's going to be recharged.

MR. MOTHERAL: That's part of the requirement of the licence?

MR. DICKSON: Right.

MR. MOTHERAL: I would like to get a better idea, I mean, if the hog industry is using so much cubic decametres or whatever it was -- kilo-pascals, how is that?

MR. DICKSON: The recharge will either come from rainfall or from run-off, like from other rivers and so on soaking into the ground, coming into the --

MR. MOTHERAL: I realize that.

MR. DICKSON: So it's rain landing on the ground. We use 3.5 sections of land in the province in terms of water that falls. All the other water that falls on the land at some point either on surface run-off or soaks in.

MR. MOTHERAL: I guess what I want to know, if you used 10 feet of water out of an
aquifer, how long does it take to recharge that 10 feet? I just want a simple --

MR. DICKSON: It depends on the aquifer, it depends on the recharge rate within different aquifers. But essentially the aim is that the aquifer will recharge. You are only taking out what the aquifer is capable of recharging, of being recharged.

MR. MOTHERAL: That's all part of the licensing?

MR. DICKSON: Right. And there is an order of priority given to the licenses as well. In other words, if you're in an area where there's a limit on what the recharge capacity is, domestic users usually get first priority and so forth down, and industrial users, irrigation users and so forth. And I haven't put all of those details in here. But that's part of the licensing requirement, you have to meet within all those criteria.

MR. MOTHERAL: Thank you.

MR. DICKSON: In terms of surface water quality, I direct just a little short section in here, because a lot of it has already dealt under nutrient management and under manure
management. And the key thing we want to point out here is the hog industry supplies nutrients to the crop industry to grow its crops. In terms of surface water quality, the issue is all agriculture. The agriculture industry has a challenge here in terms of reducing the potential for leakage of nutrients and so on from the surface to surface run-off. What we're saying here is there's a lack of research to some extent on those.

And I provided an example in here. Deerwood, some years ago did a lot of work on zero tillage. And the information coming to date now in those zero tillage fields was you might be reducing the effect of erosion, the problem is the level of soluble phosphorous has actually increased because of rising organic matter in the top surface. More soluble phosphorous tends to come off those fields. Now the issue is, well, what is a recommended practice? And we'll go into that a little bit later.

We recognize there's a need to deal with the level of phosphorus in a number of fields in parts of the province, and we'll talk about that in the next section. And we have standards
now set out in regulation. There's going to be a period of adaptation when producers will have to amend their manure management plans and have to acquire additional application fields, or use technologies to reduce the phosphorus in their feeds, or separate -- concentrate the phosphorous levels in their manures in some way so they can be added to those areas which are short.

And I want to go back to that table on the section on nutrient management, which is a pretty critical table when you look at how to balance the nutrients in the province. What we're saying here in the final remarks is that if the province wants to accelerate that process of adaptation, and there's a public good involved here, and that maybe the province should assist producers to adapt to an enhanced or speeded up means of trying to come more in balance.

I'm going to move onto the next section of soil quality. We provide an executive summary there, and then I'm going to move right into the body of the paper.

The key thing I want to say here is, manure is a useful soil amendment that serves as a source of nutrients of crops as a fertilizer and
as a soil conditioner which can improve the soil, chemical, physical and biological properties of the soil. And for example in soil pH, which deals with acidity or alkalinity of a particular soil, we provide a description in here of the impact of manure. But in the summary, the long-term applications of hog manures will have small to negligible effects on soil pH.

In terms of soil organic matter and related soil physical and chemical properties, the organic matter content of prairie soils has significantly declined since cultivation has been initiated here in the prairies. Soil organic matter levels in many soils are only 40 to 60 percent of the content of soils in the virgin state. Manures add organic materials as well as nutrients. The added organic materials will reduce the rate of decline of soil organic matter and enhance the physical and chemical soil properties that favour crop growth and microbial processes. The long-term sustainability of prairie soils will be enhanced. Numerous studies have reported that increases in soil organic matter or applications of manure resulted in soils being more friable, less compact, more easily to
till, have increased water holding capacity, better soil structure and aeration. Increased water holding capacity is particularly important in sandy soils because of their large particle size and they can hold little water. The organic fraction of very sandy soil is responsible for much of its total water holding as well as water capacity.

Manure's impact on soil infiltration rate, and this is important in terms of reducing potential run-off to surfaces and so on of nutrients. The cation exchange capacity is important in soils that their capacity is enhanced by having manures. Soil organic manner content is greatly affected by management of cropping systems. And then I talk a little bit about microbial activity and enzyme processes, and there is quite a discussion in here about their impact and the various enzymes and so on that occur in soils.

The key here, manure additions to soil, including hog manures, have a beneficial effect on soil microbial activity, soil microbial biomass and enzymatic processes. Nutrient cycling and other important soil processes will be
unaltered or improved by long-term application of hog manures at appropriate loading rates. The issue has come up a number of times about micronutrients and trace metals. These are, when you see micronutrients and trace metals in manures, this is a reflection of the feed that it got. It is either the crop has actually got it in itself, or they have been added to the ration to enhance the capabilities of that ration, improving the productivity. And some minerals have been added because of their impact as growth stimulants or as disease control measures. And there's a long lengthy description of all these various minerals and the impact they have. And I'm not going to go into depth on that.

In terms of strategies to reduce loadings, research has shown that although heavy metals tend to build up in soil from application of manures, these metals do not affect soil productivity, food safety and environment quality, if not added above established guidelines. And there are already guidelines in place because of the need to deal with municipal waste and so on, and there's been a lot of work done to try and come up with standards that can be measured
against. So the industry is already using those
in terms of ensuring that there's no problems.

One other issue has been this issue of
salt. The application of soluble salts to soil
can cause salt accumulation or buildup in the
rooting zones of soils, and/or contamination of
groundwater with salts when the salts are leached
from the surface soils. A buildup can affect the
rooting zone and the capacity of crop to use or
absorb water.

There is a report here of all the
various studies that have been done on this thing,
the frequency of salt in different types of hog
manures and so on. I'm not going to go into depth
on this. Key thing here are strategies to reduce
loadings of salt. Manures are extremely variable
in salt concentration, varying with the type of
manure and ration. Each manure is unique in its
composition and the salt content and loadings of
salt to soil can only be accurately assessed by
analysis. It is most likely that in instances
where manures are high in salts, the source of the
salt is the water used in cleaning the barns since
dietary salt in rations is low.

In terms of odours, it's just another
section asked to comment on, and I have provided a short paper here on this. The experience in Manitoba has been, and this is based on statistics, that complaints regarding hog operations have been extremely limited. If you look at the chart in figure 1 from the Farm Practices Protection Board, the most vociferous concerns regarding hog operation odours occur long before the facilities are ever built at public hearings held by municipalities as part of the process to grant or deny a development permit. Often the claims made regarding hog operation odours are overstated and not consistent with the experience of rural residents.

Farmers, since 1994, have had a provincial publication to follow called the Farm Practices Guidelines for Hog Producers. This is the document that is used by the Farm Practices Board in terms of adjudicating cases of complaint about nuisance odours. In those guidelines, they provide a series of best management practices, and these include manure injection, which significantly or if not entirely removes odours from land application; manure storage covers for various storage structures, and these can be
either straw, plastic and so forth; other practices such as shelter belts, basic sanitation, cleanliness, and diet manipulation, manure additives and solid liquid separation, or some new practices that are being developed, or have been developed.

Some emerging technologies in terms of dealing with odour are use of biofilters, though unproven yet, anaerobic digestion. It has been around a long time but the basic problem there is actual costs in terms of they are very expensive to build and don't -- they have technical problems in the amount of power they are supposed to generate. Ongoing research has looked at simple things like, for example, using a fine mist of canola oil in a barn reduces the odour from a barn by pushing down the dust. Other ways, they are looking at manipulating the diet of the pig, including dietary supplements to reduce odour production.

Land use planning. This is one of the most successful methods of reducing odour impacts on neighbours, by having appropriate separation distances. And Peter has already talked about that in some lengths and how the municipalities
are using that.

Then we talk about Farm Practices Protection Act and how it operates. Since its inception, they've had 75 complaints of which 49 were regarding hog odour. And then we outline how they were addressed; 37 of these, the hog operations were ordered to modify their practices to reduce the odour emissions. And essentially those were the application of covers.

In terms of some of the myths and realities, I think one of the key things is, based upon the evidence that the Farm Practices Board has had, they've had less than four complaints per year regarding hog odour. Virtually all of the hog odour complaints have been resolved by the installation of a cover on the manure storage structure.

Why do these operations remain controversial? There's all the various claims and myths. These include like hog odours are unbearable, they lower property values, concentration of barns in local area, mega corporate barns, traditional family farms put out of business.

Odour perception is a very complex
issue. The primary properties of odour, as perceived by humans, are the frequency of exposure, the intensity, the duration, and the offensiveness. However, the science of measuring odour is crude at present. Although there have been some advances made in terms of some stuff at the University of Manitoba, for example, characterizing offensiveness is a difficult matter, and scientific progress is extremely limited on this thing because people have different emotional and physiological responses to odours, in terms of the unpleasantness, the intermittent nature, the learned response to an odour and so forth. And there's been some studies done on this. For example, we show one here that says the levels of dust, endotoxins and microbial DNA 600 metres downwind from a hog barn are the same as the levels two and one half kilometres upwind from the barn. And that was by Cleave and associates. DGH Engineering has done a study on residents in an area. They surveyed 1,250 residents in around 50 hog barns. Seventy-five per cent of the neighbours surrounding the hog operations reported that odours had not caused them to change any of their outdoor activities
within the previous 12 months. The size and
number of operations find little impact on the
perception of odour. The neighbour's perceptions
appear to be based more on general opinion than
specific observations.

The reality of the experience of the
hog industry is very different from the myths
propagated by opponents to the hog industry. Most
hog farmers are very sensitive to the
environmental issues surrounding their operation.
The vast majority of hog farmers run well-managed
operations that meet or exceed the standards
published in the provincial guidelines. For those
who don't follow the rules, the neighbours have
recourse to the Farm Practices Protection Board.
The experience of this board over the past 13
years confirms that the Manitoba industry has
established an exemplary standard of performance.

And then I have put up a chart here,
because sometimes it has asked, like, how would we
regulate odours? In other words, the same way we
regulate nutrients in the environment. This is to
illustrate the complexity of the production
process and where gases and odours and so on can
occur in that process.
We were asked to comment on disease
and disease transmission.

MR. MOTHERAL: I have a question on
emerging technologies. We were made aware in one
of our several meetings we've had preceding these
hearings on separating the liquid and the dry
matter with centrifuge. Have you got information
on that at all, too?

MR. DICKSON: I haven't provided a
detailed summation of all the technologies that
are available. There is a host of them, various
systems that have been adapted from municipal
treatment systems. There's probably 200 chemical
bag-in-the-tank things that people have proposed,
all from coal tar to Jerusalem artichoke and so
forth. The industry uses an organization called
the Manitoba Manure Management Initiative which
attempts to try and sort out which technologies
might actually work on the farm. Companies are
constantly trying different technologies. I can
get you more information on a specific one.

MR. MOTHERAL: I think we would like
more because it's probably a major issue we need
to look into.

MR. DICKSON: For example, separation
technologies, there's various methods. You can have screens and so forth, you can have centrifugal systems, you can have even simple things like letting the first cell of the storage facility fill up and let the liquid drain into the second cell, pump that out, over three or four years later, use a backhoe or a screw auger of some description, and just simply take solids in the first cell out, and then dry them down and spread them. There's a variety of means of handling, separating solids.

MR. MOTHERAL: I just noticed it wasn't in your presentation.

MR. DICKSON: I didn't try to cover off all the technologies. We'd have a book that would be five pages, I mean five encyclopedias long because there are pros and cons to all of them. The big thing in a lot of them is just the shear cost, though; can they get a simple technology done at a price that will make sense in terms of the value of the nutrient or the odour issue that you're dealing with.

MR. MOTHERAL: Thank you.

MR. DICKSON: Diseases is disease transmission. I talk here about environmentally
controlled barns. The reason we had these
developed was to reduce the risk of bacterial,
viral and protozoan infections in the animals.
And the animals were also protected against biting
insects such as mosquitos, irritation and disease
issues associated with flies and other insects.
The animals are kept cooler in summer and warmer
in winter. And for example, you get high abortion
rates if sows are sunburned, you get nipple loss
due to frost bite, and a whole variety of other
ravages of weather. These are all eliminated by
using environmentally controlled barns. And even
inside the barn, housing practices have improved
dramatically in the last 20 years. The key thing
here is we separate the animals away from the
manure. And this drastically improves their
health status. By improving their health status,
that means you have less need for medication. For
example, the sows, you improve food safety from
the human perspective, and you also improve the
animal comfort and you have fewer sick animals.

The next stage we moved to was this
multiple site production. And by segregating
animals by their different ages, you can use
different management strategies for handling
manure. This has a major impact on the health status of the animals and once again improves food safety. And I put a description in of how to go about that. Better nutritional procedures enhances the strength and well-being of the animal but it also reduces wasted nutrients.

Biosecurity, well fed, comfortably housed animals in a well-protected environment will remain healthy if we practice sound biosecurity. And that is things like keeping other animals out of the barn, staff have to shower and so forth in and out, and we use biocontainer methods related to manure and by-products and so on.

In terms of herd health programs, if you have a controlled herd health status, then other technologies can be applied to improve animal health and well-being. And that's things like vaccines and so forth. These play a key role in reducing the susceptibility of animals to disease. As a result of indoor animal housing, disease such a leptospirosis, cryptosporidiosis and giardia -- these are big words for me -- are virtually non-existent in modern swine facilities. Diseases such as salmonella are clinically rare
and managed through proper nutrition, sanitation
and pig flow.

In terms of manure, by practicing the
guidelines set out in the Farm Practices
Guidelines for Hog Producers, the province says
these prevent illness occurring with humans,
through maintaining good personal hygiene, hand
washing; selecting an appropriate site according
to the setback distances and other criteria;
handle and store and apply manure according to the
guidelines, and avoid water pollution by adhering
to environmental regulations. This is in terms of
preventing any infectious disease from
transferring between animals and humans. And the
statement in the book is,
"When these Farm Practices are
followed, the risk to public health
from manure handling operations or
manure storage is low."

In terms of the human/animal interaction, any
potential to human health is handled by the
current food inspection system. Local
veterinarians monitor farms constantly. And we
have a program in place called the Canadian
Quality Assurance Program to do that. Provincial
veterinary officers and public health authorities are also involved in ensuring that the risk of a zoonotic disease transfer from animal to human is minimal. The key thing here is the swine industry is dynamic. It is very aware of the need for public confidence in its product. It has always endeavoured to be proactive when it comes to new technologies that will improve health and welfare of the animals. Animal health and disease control is important not just to the economic viability of a production facility, but also the quality of the product produced and welfare of the animals that produce them.

And we were asked to make some of comments on climate change. And we provided some details here about the impact of both agriculture and the pork industry in Canada and the pork industry and agriculture here in Manitoba. The key point, the pork industry contributes in a small way to the causes of climate change by its emissions of greenhouse gases, but these effects are mitigated by a large extent by the displacement of artificial fertilizers which would require enormous amounts of natural gas to produce. And by mitigation, I mean we supply
organic fertilizer from manure.

For example, on table 1, a contribution to greenhouse gases from agriculture from all sectors is 7.24 per cent. Where do these greenhouse gases come from? They are enteric fermentation by domestic animals, manure management, fertilizer application and crop production.

There's been an increase in greenhouse gases overall from agriculture resulting from the expansion of beef cattle, swine, poultry, as well as an increase in the use of synthetic nitrogen fertilizers.

And on table 2, we point out the relative Canadian pork industry greenhouse gas emissions, Manitoba is responsible for 16 per cent of Canadian contribution from hogs.

In terms of Manitoba pork industry, it represented 9 per cent of the total Manitoba greenhouse gas emissions and 2.9 per cent of the total provincial greenhouse gas emissions. In other words, a very, very small sector.

We talk about some of the strategies that the industry is adopting. The key ones we are focusing on are methane, and we talk a little
bit about -- you can put covers on the storage facility, you can have a major impact on how much methane comes off. Feeding efficiencies, feed conversion rates and so forth, anaerobic digesters could be another way of doing it. Even the application of manure in terms of how much water is in soil and time of year you apply it. The other one is nitrous oxide. And that contributes 28 per cent of the greenhouse gas emissions, and we have a description in there of how that works and where they come from.

In terms of overall conclusions, the Manitoba pork industry as of 2004, represented 3 per cent of the total Manitoba greenhouse gas emissions profile. It's unlikely that the industry's contribution to Manitoba greenhouse emissions will increase. Even if there was an increase in the Manitoba pork herd, new management practice and technology adoption will offset potential increases in greenhouse emissions. And I won't talk any more about that.

Now, we were asked to provide some comments on environmental liability. We asked our legal firm to provide that. And it's really more of a technical paper, and I have included all of
his remarks. And there's a qualifier, as you mentioned earlier, about lawyers and what they say and things. So I provided that.

Essentially, environmental liability arises from three sources, from statute and regulations, by virtue of an action taken by third party, and also pursuant to the contract between parties to a commercial arrangement. And so we talk about the statutory liability and the provincial statutory requirements, all the various pieces of legislation. The Environment Act has something in it, in manure management regulation. In fact, we provide quite a bit of detail in here about that. And how there's various steps to deal with the issue of who might be responsible for liability. We talk about the Groundwater Well Act. It has a section in there. The Dangerous Goods and handling and transportation have something in there about liability. There are Federal statutory requirements, essentially they arise under the Fisheries Act. And because under Canadian Constitution, the environment isn't addressed as a separate piece of legislation, and so it's addressed through other jurisdiction areas such as the Fisheries Act. And then we have
common torte liabilities and then contractual
liability and then some concluding comments. So
I'm not going to go into that detail.

THE CHAIRMAN: Just on that note, Mr. Dickson, among the concerns that we have had about environmental liability is decommissioning, or who is responsible if an operator, for whatever reason, just walks away, he goes bankrupt or he dies or just walks away from the operation, who is responsible to clean up anything that's left, particularly if he or she leaves a large holding facility still full?

MR. DICKSON: I think the phrase here is, if you look at the conclusion, he provides, "In the context of a hog operation, those persons who are potentially liable for environmental damages include: The person responsible for bringing the hazardous substance on to the contaminated land; the owner of the contaminated land; the occupier of the contaminated land (including a tenant); the person who owns or has possession, charge or control of the dangerous goods or contaminants; and
And my understanding is, a lot of this is discovered as we get into it. In terms of actual decommission, and the practical experience is, for example, if a hog barn goes bankrupt and is taken over by a bank, the bank ensures that the property is a state for sale. It is in their best interest to empty the manure out of the storage facility, have it applied to the land as per the regulations, and they want to sell it as a going operation. In other words, they want the storage facility to work properly.

THE CHAIRMAN: Is it a current requirement to have a decommissioning plan when a person applies for a storage facility?

MR. DICKSON: It is spelled out in the environment regulations in 6.21, and I will read it out. Decommissioning a manure storage facility.

"If livestock production in an agricultural operation with a manure storage facility is discontinued or a manure storage facility is not in active service for more than one year,"
the operator shall, without delay,
inform the director in writing, (a)
how the operator will maintain the
structural integrity of the facility
until he or she returns it to active
service; or (b), how and when the
operator intends to decommission the
facility."

And I spell that out actually in the preceding
section.

THE CHAIRMAN: That's fair. Thank
you.

MR. DICKSON: If you want, I can read
them out.

THE CHAIRMAN: No.

MR. DICKSON: All right. One of the
sections was approaches in other jurisdictions.
We didn't have a lot of time here to go through a
detailed review of the legislated and regulatory
approaches taken by other governments in Canada,
U.S. or Europe. There is a plethora of this stuff
around. And our best sense is after meeting with
a lot of official investigation the midwest United
States, in the U.S., like Iowa, Minnesota, which
are major hog producing areas, other provinces
like Ontario and Quebec, a number of our members are European immigrants or we've met with European delegations and so on. Manitoba, our view is Manitoba is at the forefront of environmental regulations pertaining to the livestock industry. That's our basic feel on this thing.

And the one thing we would suggest to the Commission, you will probably be exploring other jurisdictions, the devil is in the details. We provide some examples here. For example, in Alberta, their porosity rate in their earthen manure storage structures is 10 times different than ours. In the U.S., they use a phosphorus index model which is based on the concept of nutrient losses arising from summer downpours. Our nutrient loss is surface run-off in springtime. Complex odour models are used in Ontario for siting. And our feeling is, based on discussion with a lot of people, they are very impractical. The concept of plumes is challenging from an engineering perspective, if it actually exists. In Quebec, their basic problem is they import a lot more grain than they produce, so they are importing more nutrients, so they have a problem. How are they going to deal with
phosphorous and things like that? Nitrogen, they can blow off to some extent, but phosphorus is a problem, and other nutrients that don't change, they don't volatilize. In Saskatchewan, they may have a manure management plan but only when the barn is in its first year of operation. After that, there's no annual requirement like they do here in Manitoba. And then lowering of thresholds is another thing that comes up. Like, people say, what happens when we get to 100 animal units or something? Well, that's fine, it just means you are going to bring in more small farms that have to come under the thresholds that some of the bigger operations have to deal with. And is there enforcement? Yes, there is. And look at the statistics provided by Manitoba Conservation. We provided a little graph here. And it would seem to us that they are being enforced, and the infractions seem to be declining.

THE CHAIRMAN: Just on that, Mr. Dickson, as you know, one of the terms of reference from the Minister asked to us specifically look into that, so I thank you for what you've done here. We will be looking into it somewhat extensively, and we will share the final
results with you. And we'd certainly invite your comment on that.

MR. DICKSON: We have a bit more time now, after today's hearing, that we will spend more time trying to bring up, or do some more research in the area of what other jurisdictions are doing.

THE CHAIRMAN: Good.

MR. DICKSON: I mean, the trouble is it changes with time, so some of the information is it's not as easily available as you might think.

In terms of the future of the industry, when we get back into sustainable development, you get into this balance between economic development, social development and environmental concerns. And we're trying to address here, where do we think the industry might grow or might shrink? What is the sustainable model for the province?

And before we start, in terms of the agricultural economy, I want to point out the hog industry is an integral part of the agricultural economy and has a huge fixed investment in buildings and facilities, and these will continue
to provide a strong base of economic activity in many parts of the province.

In terms of studies, in terms of economic impact of the industry, there was one done in 2003 by the University of Manitoba under Dr. Jim McMillan. And he looked at eight municipalities in central Manitoba, Dufferin, Macdonald, Montcalm, Morris, Roland, Stanley and Thompson. These had 196 hog operations producing about two million pigs. They had an estimated value of $105 million at the farm gate.

Now, a whole variety of statistics came out of this thing in terms of paid income in the area was $10 million and so forth, property taxes, it is a very complex study. Hog production in the region resulted more than $267 million of goods and services at the provincial level. Then they used various multiplier numbers and so on to try to get the knock-on effects within the economy of that production. And it's estimated that 2,779 person years of employment were generated. And one of the rules of thumb that came out of the study was for every 606 hogs marketed, there's an additional job created in the provincial economy in some way.
We also encourage the Commission to look at anecdotal evidence when you go around and hold your public hearings. So we provide some examples here. If you go to the village, or the Municipality of LaBroquerie, you are going to find it's been transformed by the growth of the hog barns and feed mills in the area. If you go and look at the northeast part of the Interlake, I mean, this was facing severe economic challenges because the railway system was being abandoned, the elevator system was being abandoned or closed. And yet it's now a thriving community in the Town of Arborg. They have got two feed mills. There is modern hog barns in the area that utilize the local feed grains in area, which is reducing its dependence on artificial fertilizers. The same experience has occurred in central Manitoba, for example, in the Town of Killarney in that area. You'll hear from people down there when you go to visit with them. If you go to the City of Steinbach and the surrounding municipalities, I mean, this has been profiled nationally as an area where livestock development has had a major impact on the local economy. And not only has it formed a base -- for example, the credit union has a
strong agricultural base from which it can then lend to other industries and develop the community for other economic developments. And a key point about that area is it doesn't have a large amount of annual crop land, and they've always had to rely on livestock for their farm income. The tallest building in Steinbach is the local feed mill last time I looked.

General trends in the Manitoba industry. We asked an economist statistician to provide some feedback to us way back in the fall, project the hog sector over the next 10 years for us. The key thing here is we're so dependent on the United States that if you have to look at what the USDA is recommending, or projecting out in terms of economic growth for agriculture, the USDA has looked at population trends in the world, the impact of the U.S. dollar, because a lot of our prices are based on U.S. dollars. What would be the impact of oil price changes? How would that affect agriculture? It looked at world trade and competition and opening markets like Brazil, Argentina, Ukraine, Kazakhstan and so forth. It looked at the meat sector and what's happening in terms of growth in the meat industry, what role
will we go in terms of more pork from Brazil and
so forth. Food and feed, and this was based in
the fall of 2006 and it talked about the demand
and changes that are going on in the food industry
in the United States in terms of increased demand
for meat feeds and so on. China is going to
become a net importer of corn. Brazil is rapidly
increasing its area of soybeans and it will be a
major supplier of soybeans in the world. And then
it talks about Kazakhstan.

Meat consumption, there's been a large
increase in poultry production. What impact will
that have on beef consumption and pork
consumption -- prices.

Then we moved over and looked at the
Manitoba pork sector and then we looked at
potential markets. And the world pork market is
very concentrated. Only 5 per cent of world pork
production is traded internationally. China
accounts for more than half of known world pork
production and consumption. The United States,
Canada and the European Union are responsible for
over three-quarters of world pork exports. Japan
and Russia account for almost half of world pork
imports. And the U.S. has now surpassed Canada as
the largest pork exporting country. Pork dominates global meat consumption with 46 per cent of market share of all meat protein consumed. The projected 2 per cent annual increase translates into approximately 21 million metric tonnes more of pork needed for 2016, needed by 2016, or 25 to 30 million more hogs needed per year globally for the next decade.

As pork consumption goes up, Manitoba producers will have the opportunity to capture a share of this larger market, either through the sale of more pigs to the United States or increased pork exports. In other words, we ship the little pigs to the United States, they finish them off and sell overseas.

They talk a little about what could be setting us back, animal diseases. But so far we have not had Foot and Mouth Disease. It's not been an issue here. The last case was over 50 years ago. There is outbreaks in other parts of the world and that could have a major impact on world trade in pork, for example.

THE CHAIRMAN: What about the Wasting Disease that hit Quebec?

MR. DICKSON: Sorry?
THE CHAIRMAN: The Wasting Disease that hit Quebec?

MR. DICKSON: Circovirus is a disease of little pigs and in some into larger pigs. And it's had a major impact in Quebec, it has had a major impact in Ontario. If you look earlier at some the graphs on Ontario and Quebec's production, it has actually dropped in the last year or two. Now, there is new vaccines coming out, they are starting to take hold. And as the herds become more vaccinated and adapt to the disease, it is now getting, to some extent getting under control. Now, the disease is also spreading to the United States, and they are vaccinating the same way we are. So there is that period of adaption as new vaccines come into place. But we're going to see new diseases like this all the time. The livestock industry has diseases. And there are response mechanisms in place to develop things like antibiotics and vaccines and so on to overcome these diseases. The same way we get diseases in humans, we have new vaccines for flu every year and so on. The question is, do we have a system in place to deal with it?

In terms of capital, we talked about
the availability of capital and, of course, interest rates play a key role in that thing.

Will there be more sites for development? A lot of it will depend upon the industry's ability to develop equity capital for retained earnings.

We talked a little about feed and what's likely to happen in the feed industry. One key thing here is the Canadian Grain Commission has announced a feed class, which we hope will dramatically allow the development of new feed grains, so that we can get away from this 30 to 40 bushels of wheat per acre to 70 to 80 bushels of feed wheat per acre. Not only will it give us a feed cost so we can be competitive with the United States, and B, we should be able to use our nutrients better in terms of cycling them within that production area.

Then we talk about prices and what is likely to happen there over 10 years. Net returns, and some of that is based on USDA, slaughter and trade.

When we get into this, the last piece here that is probably critical is the four scenarios. And we outline each of those. If the market for 3 and a half to 4 million weanlings
continues into the United States, and the Maple
Leaf plant goes to two shifts, and our
slaughtering capacity remains at 6.5 million, then
there's a market for at least 10 million pigs in
the province. Go back, remember we talked about
9 million pigs as our current production,
two-thirds of which would be fed to slaughter,
1.5 million more than in 2005. That's over a 10
year period.

Now, another 10-year projection. If
another 2.25 million head plant is built in
Manitoba, in 2008, and we increase our
slaughtering capacity, and we have to deal with
the issue of pigs from Saskatchewan and Alberta
being slaughtered here, then this will give a
total of 11 million pigs produced in Manitoba, and
the markets would have to be found for the extra
pork. And as we said earlier, the world demand
for pork is increasing at the rate of Canada's
total production per year. And if a new plant is
built in 2008, but the U.S. border is closed, this
is the third scenario, but not to pork, then of
course what will happen is weanlings will have to
be finished here in Manitoba. And we could get
into current levels of 9 million head if
additional feeding barns were built. And of course, the fourth scenario is, pork production could decrease because of higher Canadian dollar or U.S. duties or something like that to make the industry unprofitable. And you have to take these projections with a large pinch of salt, to be honest with you.

Then we talk about production and various statistics, and how many pigs will be available according to sow numbers and so forth. And then some general comments on new technologies and the adoption process. We have always taken a proactive approach in the industry to deal with environmental issues. And I talk a little here like, for example, nuisance odours. The industry has gone out and, essentially, injects the manure, we have started to put covers on, we are using drag hoses, injection cultivators and so forth. There will be more new technologies flowing out from research and development activities. And as Karl mentioned earlier, our council alone has spent over $6 million on trying to develop those new technologies.

We need to move on with dealing with the phosphorus issue as a crop nutrient. We
talked to some extent earlier in the various sections. We want to emphasize that we are a very proactive industry. We want to look at using best available control technologies. That's a phrase that is used in the environment industry. We want to form close partnerships with government, regulatory officials, research centres, technology development companies, to create these new technologies. Even government, for example, changing the national regulations on animal feed stuffs will help the industry deal with the issue of phosphorous.

In terms of policy tools to be used by government, it is our impression that government policy makers have been primarily focused on developing more and more regulations. We feel this is a limited understanding of the variety of available policy tools. You can still achieve some of the classic objectives of public policy, of efficiency, effectiveness and equality. For example, some years ago the two government departments and the livestock industry created the Livestock Manure Management Initiative, which is a collaborative effort to try to develop new technologies. We feel a renewed effort by
provincial departments to invest some research funds matched by industry would play a key role. You could use sales tax exemptions to encourage the adoption of new equipment and services. In the Red River Valley, the smaller producers are going to need significant public assistance to build larger manure structures or they are going to go out of business.

Producers need to be educated -- and the crop sector needs to be educated on the value of conserving manure as a source of valuable crop nutrient so that manure becomes a valuable commodity which is sought out by crop producers for its true economic value. Guidelines and publications of general standards are valuable public policy tools, because they clarify the expectations for all stakeholders. Regulations and their enforcement should be viewed as measures of last resort. For example, Manitoba Water Stewardship is actually taking this approach with its new nutrient management regulations that they are setting out. And government officials can guide the tenor of the public debate on environmental issues. For example, this issue of exponential growth. The industry is returned to
more normal slow growth rates of two per cent
prior to the exceptional growth rate in the mid
1990s. The growth of the hog industry in
Manitoba, in terms of actual production of animal
weights, has been modest. And I put a little
comparison in here. In 2006, we might have built
10 to 12 barns in the province. In Iowa, they
built 290 barns last year.

Summary remarks. Our feeling is
there's been a plethora of legislation,
regulation, public reviews, consultations, reports
and new government agencies, we list all these out
over the past 10 years. It is our view that
successful provincial governments have created one
of the strictest sets of environmental regulations
for the livestock industry in North America, and
these have been strictly enforced as evidenced by
statistics on the Manitoba Conservation website.
It is the role of government to set the rules for
the market economy so that entrepreneurs can
invest and create new businesses and employ people
in production of goods and services. The hog
industry is a slow but steady growth industry
which is ideally suited for Manitoba. We can
provide a domestic market for a major part of
grain industry, and that in turn will reduce their
costs in terms of transportation and elevation
costs. We can reduce the dependence of crop
growers on synthetic and imported mineral
fertilizers. We can reduce the threat of trade
action by foreign competitors. We can improve the
stability of the meat processing industry, and we
can add value by converting grains and oil seeds
into pork as a consumer ready product.

Manitoba has a world class industry
which can deliver final product into some of the
most discriminating markets in the world. This is
an objective we should embrace with enthusiasm and
excitement, by finally developing a thriving
sustainable agriculture for generations to come.
And that's the end of part one. We'll do part two
at the end.

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

MR. YEE: Yes, I have a question. In
terms of nutrient management, I noticed your
information discussed budgeting nutrients. And in
our discussions with Manitoba Conservation, they
mentioned this practice is well known and applied
to Quebec. But one of the other things that is
being done in Quebec is a better assessment of
nutrient loading on lands. It's something they
were saying is somewhat lacking here in Manitoba.
I was just wondering if this is something that the
industry is looking into as part of their studies
and as part of that better science you discussed
earlier on?

MR. DICKSON: Well, in Manitoba we
have, to some extent, started that process some
years ago. If you look at table 9, this is a
study done in 2000, on page 436, section 436. I
mean, essentially it's trying to attempt
developing a balance of phosphorus in a crop
reporting area. And the view at the time I think
to some extent was driven by the fact that they
looked at fertilizer applied, and then the problem
was too much manure. But if you flip the argument
around, if you focus on manure and then say, well,
how can you reduce the amount of fertilizer
applied, then we can bring a lot of these regions
into balance very, very quickly. In fact, some
will remain in a negative position even with
artificial fertilizer applied. The same can apply
to nitrogen and so forth, we can do these
balances.
I think we need to reach out beyond looking at municipal boundaries and look at areas as a whole in terms of watersheds and contours of the land, the suitability of different soil types and so forth. And it also has, the technology has to be at a point where an industry can afford it. The new regulations that are being proposed by, brought into place I should say, by Manitoba Conservation, a study done by the University of Manitoba has indicated that it is going to cost anywhere between 18 and $27 million in terms of implementing those over the next 10 years. Well, that money comes out of net returns. It's not simply added on the total cost. So, now in terms of relation to net income, you're talking 18, 25 per cent of a producer's net income just to meet the new phosphorus regulation.

MR. MAH: Could I just add a point as well relative to nutrients budgets? Because the hog industry is only one component of the livestock sector, and because the livestock sector is only one component of agriculture, because agriculture is only one component of the whole economy, including the urban economy, the onus, or an attempt to try and have an industry single out
an exercise to nutrient budgets I think is perhaps an erroneous way to go. We should all be working collectively to ensure that whatever we are contributing is what we're trying to combat as well, we're trying to reduce. I think the onus really is on government, through Manitoba Water Stewardship and Manitoba Conservation, who have the role, responsibility, and expertise to come up with these overall nutrient budgets on watersheds. And I know they are working towards that.

MR. DICKSON: As a supplemental too, on table 9, bear in mind that this is all livestock and this is based on the year 2000, and this phytase, for example, is an enzyme that has been in feeds, came in about four or five years ago, so the effects haven't shown up yet on some things.

THE CHAIRMAN: Just on phytase, I think you said 60 per cent of operations are using phytase now; is that correct?

MR. DICKSON: That's according to industry sources.

THE CHAIRMAN: Is it growing, is it going to reach a point where everybody is using it?
MR. DICKSON: One would hope so. For some on farm feed mills, it will take a little longer to adopt the technology.

MR. MOTHERAL: One comment on, this comes as being a former municipal councillor. When you say the Red River Valley needs significant public assistance, and I haven't read the whole thing, is that in your earthen storages?

MR. DICKSON: The new regulations that have been adopted in November under manure management regulations are going to be banning the winter spreading of manure for all operations. And currently those under 300, 400 animal units are excluded. Those operations are going to have a dramatic problem because they carry 30 to 60 days storage capacity. So, I mean, Conservation is well aware of this, and the Minister has indicated that there will be public funding of some form forthcoming in the, maybe the new budget, we don't know.

MR. MOTHERAL: And that takes in the biggest percentage of the hog enterprise in Manitoba?

MR. DICKSON: It's a designated area. That's where it's being banned. Other parts of
the province can still carry on with their spreading.

MR. MOTHERAL: Is that designated area where they are prone to flooding?

MR. DICKSON: It's bigger than the flooded area.

MR. MOTHERAL: It is larger than the flooded area?

MR. DICKSON: In fact, it goes north of Woodlands, parts of Selkirk, over to Beausejour.

MR. MOTHERAL: I think I had that and I have just forgotten. Thank you.

THE CHAIRMAN: Well, thank you very much for your presentation here this afternoon. Yes, Mr. Dickson?

MR. DICKSON: Our presentation will be available on our website tonight, or first thing tomorrow morning, and including the Powerpoint presentation as well.

THE CHAIRMAN: Thank you. So thank you very much for your presentation this afternoon. We'll take a break for about 15 minutes, and then we'll come back with a group of environmental organizations. Thank you.
(PROCEEDINGS RECESS AT 3:17 P.M.

AND RECONVENED AT 3:36 P.M.)

THE CHAIRMAN: Could we come back to order, please? We have a busy agenda. We have another presentation that will take approximately two hours. We will run straight through. We were scheduled to take a supper break at 5, but we will take it at about 5:30. It may mean a slight delay in starting after supper, but hopefully not.

Mr. Koroluk, is your group ready to proceed?

MR. KOROLUK: Ready as we ever will be.

THE CHAIRMAN: Can I ask each of you to introduce yourselves for the record? And then I will ask Kathy Johnson, the Commission secretary, to administer the oath?

MR. KOROLUK: Glen Koroluk.

MR. TAIT: Fred Tait.

MS. PRYZNER: Ruth Pryzner.

MS. BURNS: Vicki Burns.

MR. HARRISON: Bill Harrison.
1 G. KOROLUK, F. TAIT, R. PRYZNER, V. BURNS and
2 B. HARRISON, having been sworn in, present as
3 follows:
4
5 THE CHAIRMAN: Thank you. You may
6 proceed.
7
8 G. KOROLUK, representing Beyond Factory Farming
9 Coalition
10
11 MR. KOROLUK: Thank you, Mr. Chair,
12 for this opportunity to follow up the Pork Council
13 on the opening day of the second round of public
14 meetings.
15
16 I just want to express our concern
17 from months ago. And no fault of the Commission
18 or the chair, but the Minister of Conservation did
19 give you a Terms of Reference that really didn't
20 allow us to have a full-blown environmental Clean
21 Environment Commission hearing, which would have
22 allowed us to ask questions of the hog industry
23 and cross-examine, et cetera, but we will work
24 with what's given to us.
25
26 THE CHAIRMAN: Well, I don't agree
27 with you, but I agree that we will work with
28 what's given to us.
29
30 MR. KOROLUK: Okay. Just a bit of a
31 different take on issues here. It's good to see
how big the industry is in Manitoba, in Canada. As we see in 2006, Manitoba is the leader right now in the country in terms of hogs marketed in Canada. We are at 8.8 million hogs a year, according to Stats Canada. And correctly pointed out from the previous presentation, we surpassed Ontario and Quebec. And their numbers are actually going down because of the circo virus.

There is another chart that gives sort of the pork powerhouses of 2006 in North America, excluding Quebec. It's a funny thing because a few months ago I asked for a breakdown of the companies in Manitoba and how much they produce, and I was told to get the Pork Powerhouse magazine of successful farming. But it gives us an idea of who some of the big players are in the continent. Smithfield Foods, of course, is by far the biggest pork producer in the world, actually. Maple Leaf, which is based out of Ontario, but have their major kill plant in Brandon, is Canada's biggest producer. And they probably rank around sixth or seventh in the continent.

And, of course, we have got other companies here in the province. Hytek, Puratone Corporation, they have got about 54,000, 46,000
sows apiece. And, of course, the Puratone --
sorry, the Hytek Corporation, is still interested
in building their own slaughterhouse plant here in
Winnipeg.

A different look at numbers, this is
from 2006. It's the average number of pigs on a
farm per operation in North America. And it's
basically taking the pig census, as you heard
earlier, of about three million pigs in Manitoba
and divide it by the number of operators. And
you'll see that in terms of operation size,
Manitoba is ranked second right now in terms of
having the largest operations in the continent.
North Carolina, by far, they have big operations
there and they have got big problems, too.

And we know, you know, Quebec has had
the moratorium that has been lifted for two years.
North Carolina still has a moratorium on new
development. And the moratorium here in Manitoba,
which we would like to see extended, at least for
a couple of years.

We talk about the number of
operations, and it's an important question.
Manitoba government says around 1,400. Stats
Canada, where I got that previous chart, says
1,250. And this is for the year 2006. And the Pork Council has publicly said: Well, there is 851 registered operators now or it may be up to 1,000. And why do we want to know how many operators that are out there? Well, it's important to know who is out there. For one, you have to know where these operations are in terms of monitoring, enforcement, inspection.

We had, you know, the Manure Management Regulation of 1994 that came into play, but there were a number of operations in place before that. So I don't think we still have a grasp as to who is out there and where these operations are located.

It's also important for de-commissioning and post-closure. I mean, if ten years ago we had 2,000 operations and now we have got 1,000, that means there is 1,000 operations out there that should be adequately de-commissioned. And I haven't seen any records of de-commissioning yet in this province, but I could be wrong.

And this is just a recent article from the Manitoba Co-operator, which says that: There is 851 pig operations as of March 2006. And then
they say: There is approximately 1,000 operations
in the province. So it is good to get a grasp of
the numbers.

I am not going to talk much about the
economics in my overview. We will talk about it a
bit more later on in the presentation. But this
is from a 2001 article in the Farmer's
Independence -- or the Co-operator, I should say,
where at that time there was 1,650 hog farms in
Manitoba. And 82 percent of the hogs that went to
market came from 11 percent of the producers.

And so it's a tremendous amount of
concentration of ownership in terms of size and
production capacity. So, you know, if you break
it down, yeah, I mean, 180 factory farm operations
accounted for $705 million worth of $860 million
total for that given year. And we have heard that
in 2005 the economic pie is $1 billion. So, you
know, maybe 10 percent of the operations account
for over 80 percent of the hogs, so it's an issue
of concentration.

This is from a recent article also
talking about the top 10 percent gets 75 percent
of the subsidy. And this is U.S. farm subsidies.
And, I mean, we have asked for this information in
Manitoba and we haven't been able to get it yet. And what we really want to demonstrate is that there are subsidies. There are programs out there. There are income support programs and there are subsidies.

Here is Manitoba Finance Fast Facts from 2001 that says:

"Annually tax revenue foregone in support of Manitoba farmers, $170.5 million."

You know, it's good to support a family farm or a farm operation in times of need, but who is getting -- who is getting these subsidies? Is it these corporate structures, the investment schemes? These are details we need to know. So we have -- this is the information that we have asked for and have yet not been able to get ahold of it.

CAISNISA pay-outs to hog operators, loans and lines of credit that are forgiven or outstanding from the Manitoba Agricultural Services Corporation. And we really want to get a gauge as to how much is the general taxpayer supporting our ILOs or who really is receiving the benefits?
Whoa, welcome to North Carolina. This is actually Manitoba. And the next few slides will be all from Manitoba. I don't know if you can see this from the back, but this is a hog operation in southeastern Manitoba in June 2002 after some heavy rains. We've got run-off problems. We've got a full lagoon.

Same time, same area, different set of operations. You can see all of the standing water in the fields where the manure will be applied or has been applied. This one is interesting because it is in June. And there is standing water all over the place and the lagoon is empty already, or near empty, so we know that the manure has gone onto the fields. You can see the river in the forefront of the picture there. The fields are just 100 percent saturated.

Again, here are eight barns in the southeast of Manitoba. I guess some of you might remember the big rain where we had six to eight inches in the southeastern part of Manitoba. But some of these barns themselves are washed out.

A different view. Here is an above-ground storage container. Again, the fields are saturated. This just gives you a size -- some
of the size of these barn structures and lagoons. You can see, you know, Highway 12 in the forefront there and how small the vehicle is.

I don't know how many animals would be in this barn, but at least 10,000. And it's forested area. And the forest has been blown out, leveled out, and that's where they have applied the manure.

Again, springtime 2001, this is the R.M. of La Broquerie. Saturated fields, spring run-off, full lagoon, just ready to be emptied. Springtime, again after the April 10th period where you can't apply manure. Again the fields are saturated. And this one is empty, so we know that the manure has gone on to the fields that are saturated around there.

Above-ground storage field. The entire area is saturated. And the storage area is brim to the top, probably got a foot left there. And where are they going to put that liquid manure?

Another example, an eight barn operation. These are probably finishing barns which hold about 2,000 pigs per barn.

Mortality. This is no doubt an
accident, but we're trying to find out what the mortality rate of the industry is in this province. Finding proper places to deal with mortality is an issue in Manitoba.

A ditch along a highway in the Interlake. The field to the left was manure applied to it. And you can see the algae growth in the ditch. You get a rainfall, that ends up in the lake, Lake Winnipeg.

Another example, this is from western Manitoba, of a drainage ditch in a field to get water running off a field in times of spring melt and heavy rainfall. And these fields are manured. And there is a hog operation on this section of land. And it eventually gets off the fields and ends up in a drainage ditch. And then from the ditch to the stream, from the stream to the river.

A saturated field again. You can see the algae growth. And again this ends up in the ditch and drainage system. And this is also taken in the Interlake. Just to give you an idea of the size and scope, this is half a picture. If you go to the right side of this picture, and one of these days I will tape them together, there will
be 16 barns on one section of land. You know, with 2,000 pigs per barn, that is 32,000 pigs on a section of land at a given time. Again, the place is just saturated. And, you know, the manure has nothing else to do but to mobilize into the aquatic environment. This is a leaky pipe that you can see between the lagoon and the barn.

This one is interesting. We think it's, you know, an operator dumping its truck on the snow in the winter time. And you can see the burn-outs. So, you know, you just dump it and move a bit. And there is a whole bunch of them there, burn-outs on the ground. And this is all overhead shots, obviously. Years ago we had an outfit called hog watch. What was it called?

MR. TAIT: Hog Air.

MR. KOROLUK: Hog Air.

So a lot of talk about surface water, contamination, nutrient build-up in Lake Winnipeg, too much phosphorous, et cetera. That's just one issue, just one. I wouldn't call it small. But there is a danger that if you focus on one issue too much, there are other issue impacts that we might let slip away.

And back in 1999, the government, in
its wisdom, did a sample, a groundwater sampling regime of close to 1,000 wells. I think they took a sample per township. And the results, there was never any report printed up. In fact, we don't know what happened to the report. We were promised there was to be one.

But it showed that 32 percent of the wells sampled exceeded the Canadian Drinking Water Quality Guidelines of zero total coliform bacteria. And 16 percent of those wells tested also exceeded the Drinking Water Guidelines of 10 milligrams per litre of nitrate, and that was back in 1999. So in areas, environmentally susceptible areas, you know, contamination of the aquifers is a big concern. And we can see that we have got problems in Manitoba. Those are high percentages.

So after seeing that report, I actually asked -- went through Freedom of Information and requested all of the monitoring wells installed for all of the lagoons, livestock lagoons, in the province. I can't remember what the number was. I think it was 400, 500 different wells installed. And it took me almost four, four years to get the data. The Freedom of Information isn't the greatest in this province.
But I gave the data to Dr. Bill Paton. And he looked at the different parameters. And we didn't get the information properly, but he estimates that over half of the manure storage facilities show evidence of groundwater contamination. And this is data that went up to 2005. And we would also like to get an update of this information. We have asked for it, too. And some analysis of it, independent analysis.

So what does all of this mean? We are talking about nutrients. We are talking about groundwater contamination. We are talking about Lake Winnipeg nitrification.

But there is also other stuff in that manure. And the feed has low dosages of antibiotics. Antibiotics are used to cure, you know, disease, treat an animal. But it is also added, at the sub-therapeutic level, as a growth promotant. And, you know, not all of this is absorbed by the animal. And it is excreted, much like the M and P, into the waste. And that ends up into our environment, too.

And, you know, we are not even doing this research here in Manitoba. And I have got a stack about six inches tall of stuff that I will
give to you and stuff that is a peer reviewed in
the U.S. And I mean, this is real issue that we
are not dealing with.

And in the U.S., well, the American
Medical Association passed a resolution in 2001
that the A.M.A. is opposed to the use of
anti-microbials at non-therapeutic levels in
agriculture, or as pesticides or growth promoters,
and urges that non-therapeutic use in animals of
anti-microbials, that are also used in humans,
should be terminated or phased out based on
scientifically sound risk assessment. And, I
mean, the A.M.A. is quite a reputable
organization. So this is an emerging issue that
we have to deal with.

So just to sum up some of those
pictures that we saw, some of us, a few of us,
have asked for manure management plans that have
been filed. We have asked for soil test data. We
have asked for water quality data. We have
installed groundwater monitoring wells,
groundwater data of private wells. A list of
ingredients in the feed. An update of the
nutrient loading in Lake Winnipeg going into 2006.
Inspection records of permitted ILOs. Actual
water usage data of metered ILOs. Pig mortality rates. So these requests are still outstanding. And we want to point out that in order to do an investigation, we really need to get real data, and the data is there. There is no sense in us bouncing stuff back and forth. We really want to get that data and see what is happening on the ground.

A couple more pictures here. A barn in western Manitoba taken in winter time. But it sort of gives you an idea that emissions are coming off three locations from an operation. From the lagoon, and if you put a synthetic cover, you might deal with it. Emissions come from when you apply the manure on to the fields. And they are trying to deal with that problem by doing more injections. But emissions also come from the manure themselves, the stacks.

This is a large barn. It probably holds 10,000 animals. And as has been explained, I mean, this is an odour. This is hydrogen sulfide. This is ammonia. And these are toxins. And you can see the drift, depending on the climatic situation at this given place, at this given time.
A different shot. You can see the drift. I don't know if you can see it in the back. But this air pollution is going on to someone else's property. And you can see the drift. I don't know if you can see it or not, but it's down low on the ground. Maybe there is some sort of inversion, air inversion happening here in the vicinity. But this is not odour. This is air pollution escaping the property and going on to somebody else's property. We know this. We have measured these constituents. We've got rules and laws in the oil and gas industry that says you can't have over this amount of hydrogen sulfide escaping from your -- from your property. Why is agriculture exempt from that?

And in Iowa, which has been mentioned, is the leading pork producer in North America in terms of numbers. And in 2002 -- well, in 2000 they put together 40 of the top scientists in the region to look at air quality issues of Concentrated Animal Feeding Operations, CAFOs. We call them ILOs here. They call them CAFOs in the U.S. And the 40 scientists came out with a consensus report. In response to question 2 -- I think there were only three main responses to
three main question. But by consensus of the entire study group, the following substances should be considered for regulatory action: 1. Hydrogen sulfide, 2. Ammonia, 3. Odours. So they are recommending that Iowa should move forward and start regulating the toxic substances coming out of these operations from the barns, from the lagoons and from applying the manure on to the land. They further say:

"Hydrogen sulfide and ammonia are recognized degradation products of animal manure and urine. Both of these gases have been measured in the general vicinity of livestock operations of concentrations of potential health concerns for rural residents under prolonged exposure."

And in Canada, the Canadian Medical Association, back in 2003 of April, at their Annual General Meeting, were also concerned about the spread of intensive livestock operations. And they passed a resolution that:

"The C.M.A. expresses concern with regard to the risk of public health in rural areas as presented by the
development of industrial hog farms.

And that the C.M.A. urge the federal, provincial and territorial governments for a moratorium on the expansion of the hog industry until scientific data on the attendant health risks are known."

So from these slides, just to sum up the information requests that we have outstanding and hope to get in the future in order to carry on a proper investigation, I mean, we want an idea of what the injury and illness rates are of hog barn workers who are exposed to these gases and other workplace and safety areas.

We want to get a copy of the relevant in-house and external studies used to maintain set-back distances. And these studies were mentioned in the provincial report that came out for this review.

And we also want a more detailed assessment of the complaints to the Farm Practices Board, not that -- well, some of them were remedied. I mean, we should actually be interviewing some of these complainants and see what is happening. I just want to add that no one
knows about the Farm Practices Protection Board and the fact that you also have to pay money to make a complaint.

And a bit on climate change and, of course, you know, air emissions. And it was mentioned, you know, that methane and the nitrous oxides contribute to greenhouse gas emissions in Manitoba. And they are on the increase, not the decrease. And agriculture is where the problems are right now.

But on the flip side of climate change, because of the production system, and that's what we're really looking at is the production system, it uses a lot of water. And it also -- you know, in terms of climate warming, it's a system that will have some problems in the future. In areas where we will get more extended drought, we will need more water. We will need to find more water for these systems. We also are seeing, which you have seen from some of the slides, that we get these intense thunderstorms, and people relate that to the change in climate warming, too.

So if we get, you know, four or five or six inches within two days, I mean, you see the
manure escapes the operation and is into the
surface water system and groundwater system. So
that it's the production system that actually
creates the problems here. And here, just
recently at the Pork Expo, the Banff Pork Expo,
David Sauchin, who is one of the leading climate
change researchers out of the University of
Regina, is warning the hog industry that water
management and conservation will be the key for
industry to adapt to climate change. The greatest
risk climate change presents is a reduction in the
amount, quality and distribution of water supply
systems.

And just a note, the comment about how
much water the pork industry uses, we would
actually like to see how much water the pork
industry uses. They self-monitor. The facilities
that do have metres, they read the metres and hand
it into the province. I wish I could do that with
my gas bill.

But the issue is, and it was pointed
out also, that most of the groundwater that they
take is from the sub-surface aquifers, and these
are the ones that will be impacted the most by
drought.
And just to finish off here, and we will talk about this a bit more, I mean, the impact of the industry to communities. And here is a story from a couple of years ago. And believe me, I've got tons of these stories. When the industry comes into your community, they bend a lot of arms. In this particular development, Dynamic Pork Corporation, which is a network of substantial financial interests and, you know, it is -- most of these operations are investment schemes. You know, it is not a family farm. I mean, you are an investor. So they are networks. And in this particular case, groups want councillors charged with conflict of interest. And we hear a lot of stories of conflict of interest in the rural parts of Manitoba. We have got conflicts of interest in Winnipeg, too, by the way.

So, you know, people get upset and people revolt, and it's been ongoing for years and years and years. And, you know, this is a March in front of the NDP convention a couple of years ago. Close to 150 came out. And you get protests all over the place in Manitoba when you try to set up an operation.
And that's my part of the presentation.

THE CHAIRMAN: Thank you, Mr. Koroluk. I'm sure, Mr. Koroluk, that if you were able to self-monitor your gas meter that you would be completely honest in your reporting.

I do have a couple of questions. You showed us a number of pictures of operations where, as you noted, there was water around the operations and the lagoon appeared to be empty. But do you -- are you able to document that that manure was spread on wet fields?

MR. KOROLUK: No, not actual on-the-ground verification. All we can say is, well, this is the date we took it. We know when you are allowed to put the manure on the fields. And you can see a picture that, well, okay, this lagoon is almost empty.

THE CHAIRMAN: And then you also showed us a picture of a hog barn with exhaust coming out of stacks on the roof and you referred to this as being toxic. What toxins are in that? We've heard evidence otherwise.

MR. KOROLUK: Well, ammonia is classified as a toxic substance under the Canadian
THE CHAIRMAN: How much ammonia is in that exhaust?

MR. KOROLUK: How much ammonia? There are studies which I can provide to you in measurements and part per million, for sure, yeah.

THE CHAIRMAN: Well, we would appreciate that.

MR. KOROLUK: Okay.

THE CHAIRMAN: We need solid evidence, not conjecture.

MR. KOROLUK: Most of this stuff I have on hand is mostly from the U.S. and it is peer reviewed, like published, in refereed journals.

THE CHAIRMAN: Thank you.

Mr. Harrison?

Bill Harrison, Rural representative for the Provincial NDP Environment Committee

MR. HARRISON: Mr. Chair, regarding some of those photographs that were taken during spring flooding, I believe it was. These lagoons were often breached by the water, and that's why the lagoons would appear to be more empty. At times the actual lagoons were washed. And you can
see in the actual photographs that they are breached. And there are two streams and I noticed them going right back to the barns. You have to check the photographs closely to verify that.

THE CHAIRMAN: Thank you. Next?

MR. HARRISON: I would like to get more comfortable here, please.

Good day. My name is Bill Harrison. And I am, among other things, a rural representative for the Provincial NDP Environment Committee. And also it is nice to be recognized by the Manitoba Pork Council because I am also Joe citizen. I'm the union window person. I am the NIMBY neighbour. I am that special interest groupie. I am the limited complainer on odour in Manitoba. I am the methodologist. I am a person who happens to live in an area with a rapid increase in the number of mega-hog factories. And I am, first and foremost, a water and an air hugger who is concerned about human health and welfare.

I would like to thank the CEC, once again, for hearing from the public and, in particular, from we rural Manitobans on the subject of the environmental sustainability of the
hog industry. And you will notice we do not say hog farming, so we have got that right today in Manitoba.

I know you have a daunting, but nevertheless valuable task in processing a large amount of information you've been mandated to review. And we hope you will make strong recommendations to the government of the day which will result in real increased protection for our environment and, most importantly, our ground and surface waters and, of course, our people.

While I myself have been concerned about environmental issues since attending university in the sixties, I only took up the environmental cause in the year 2000 after living for the previous 28 years in a once pristine valley on the Roseisle Creek in the Pembina Valley foothills west of Carman. Some of you may have been out to that area and cross-countryside skied there and enjoyed the beauty there.

Well, my neighbours and I could see the growth of intensive livestock operations, particularly hog production factory barns. I will refer to them as factories because that's what they are. And I'm sorry to see or still hear that
people are eating this factory pork because I recommend that it is not the healthiest of foods. I've worked in those barns myself. And, I'm sorry, but I've stopped eating it. Anyway, that's just a personal view.

Yes, at the time, much more numerous family farms were, you know, about. But at one time we could see more family farms, rather smaller producers, who now are not there. And my small farm friends who were there have lost a significant portion of their farm income. As noted by the Pork Council here, we saw a reduction in the number of producers and becoming larger producers.

And as Glen has mentioned, they are corporate investment. So the small family farmer now has one less bit of income, but the investors, well, they are making money. And that money, that income money which is investment-driven, a lot of it has been leaving our communities, our rural communities.

Now, a Hog Watch ad in the June 28, 2000 edition of the Winnipeg Free Press put the burr up my backside, as it pointed out then that: "Our province proposed current annual
hog production of close to ten million hogs would produce more fecal waste than the entire human population of Canada."

And then:

"A significant portion of it will wind up in your rivers and ground and ultimately your drinking water."

And, of course, now we know of pollution, and in particular phosphorous, affecting lakes Winnipeg, Lake Manitoba, Stephenfield Lake, which is a man-made lake near where I live, that feeds thousands of people in the Carman and surrounding area, and who knows yet how many others.

These CEC meetings will be of profound historical significance to the environment for our children, our children's children and beyond. The current state of our waterways is screaming for us to help. Denial by the hog industry is not an option. The public has woken up, and that is why we are here today to begin a process to save our water's health and that of those creatures who consume it to sustain their lives.

For rural residents and now, in
particular, the urban folks of Transcona and St. Vital, and really the whole of Manitoba, this is often a tale of frustration and cynicism born of trying to deal with governments, both municipal and provincial, and the hog industry. Residents are, at best, ignored and, at worse, misled and, yes, lied to by the above mentioned governments and hog industry. I will illustrate that. As well, there has been threats by members of that latter group.

My neighbours and my friends support my efforts to defend our environment, but I have seen many give up their struggle since they feel the Department of Conservation, in particular, has failed Manitobans and is often perceived as a promoter of the hog industry. And this is illustrated by members of the now of the pork industry, particularly the Pork Council, who were formerly working for the government, and they have now switched sides. I only wish that this board could recommend that there be a cooling-off period so that when somebody moves from the government, from a position of knowledge, before they can go and work for some industry that they have a particular knowledge in that they have gained at
the cost of, you know, our state, that they, you know, have a few years off maybe. You know, it is a conflict of interest, really. They should really give them some time to stay out of the show.

Now, the abandonment of Olywest by Olymel and Big Sky Industries, or Big Ski, illustrates the economic uncertainty of the hog industry, at the best of times. Olymel lost $150 million or so in the last few years. And Big Ski is reputed to be 40 percent funded by Saskatchewan taxpayers. So politics enters the sustainable equation, or sustainability equation, as the Saskatchewan government, obviously, does not want to subsidize a slaughter plant in Manitoba, especially when Maple Leaf is closing its plant in Saskatoon. Now, we have seen that because Maple Leaf feels that it is better to be processing here in Canada, and for the Canadian consumer, rather than export it.

And lest we forget foreign interests, foreign intervention, rather, when on October 15th of 2004 the U.S. government slapped duties of 13 to 15 percent on live hogs shipped to the U.S. for six months in order to protect its own producers.
Now, this is the variabilities in the market. It is tough to be a hog processor or a hog producer. And today we have a feed deficit crisis, with the cost of corn skyrocketing in the U.S., because of its demand by the burgeoning ethanol industry. And why should our already suffering grain farmers be expected to grow cheap feed quality grain to make pork producers richer? Yet pigheadedness on the part of the hog industry pursues even more growth problems with all of these dominos falling their way.

Now, I'm not totally against the hog industry. I'm not. But there is a limit. There has got to be a limit.

But back to my and my own neighbour's own negative experiences with the hog industry and local and provincial governments. Back in the summer of 2000, I attended four livestock stewardship hearings, and then watched in disbelief as the major recommendations in the resultant Finding Common Ground report were ignored by the provincial government. A waste of my time, and many others, and the taxpayers' money. Let's hope today we are not wasting taxpayers' money.
Subsequently, my faith in the powers that be was only decreased when Hytek arrived in my neighbourhood. And I see they are here today. An employee of theirs and his brother bought a beautiful piece of land, a quarter section, just under one and a half miles straight south of my home. And just a half mile south of the quiet hamlet of St. Lupicin, well known in Manitoba and beyond for its St. Lupicin Craft Gallery, which provided additional income to the dozen or so artisans and artists who displayed their works there for many years.

At the time, six full-time residents and six part-time residents populated the village. Since construction of the 8,000 or more feeder barns, the population is now down to one, and that's in less than three years. The gallery's owner, my good friend, my late friend, Ken Chambers, is dead, due in part to the stress of dealing with the aggressive manager of the Picardie Farm. And, of course, the gallery is closed and the mood of the neighbours is angry to this day.

In spite of a promise to cover the manure pit by the proponents before construction
began, it only may come to pass because of our recent efforts with the Farm Practices Board this winter, where we did win a decision to have the lagoon covered. But that's not until June, and that is only with straw, even though we specifically asked for a synthetic cover. But, of course, they don't want to spend the money on something that is more effective. Meanwhile, this is another cost to taxpayers because a hog businessman wouldn't live up to his commitment. And so we had to have this meeting, at a great cost again to the taxpayers, and to the people who live in the neighbourhood, of course.

Never mind the lie told to us by Water Management in the Conservation Department that these barns would not be built because there was not enough water under the property to support this operation. No, instead they granted a permit, a special permit, to Picardie Farm to pump water via an irrigation-type pipe from the Lyle Creek about two miles away during spring runoff to fill an in-ground storage pit next to their in-ground manure pit. This is sustainability?

Meanwhile, I joined the NDP, with the good intention of working with the government to
bring improvements to the Planning Act and our Environment Act. It has been a struggle. Our municipal government, government of the R.M. of Lorne, wasted $20,000 on lawyer fees alone fighting its own constituents in the Town of Notre Dame de Lourdes this past summer over a disagreement over the set-backs which we have discussed, or the hog industry presented earlier, that they are so happy with, a disagreement over set-back distances in the R.M.'s new Planning Act. Who were the main witnesses for the R.M.'s lawyer? Why a director of the Manitoba Pork Council and an expert from the Manitoba Department of Agriculture. By the way, the town won this case. And what did this cost the Manitoba taxpayers to have us sit before the planning board? But this is sustainability?

Now, a hog factory production proponent in our R.M. at Swan Lake, near Swan Lake Village, or Swan Lake town, I should say, wants to build right on top of the town's aquifer and within one mile of the Swan Lake Band Reserve, angry -- angering both the towns' and reserves' residents. But we will have to wait and see who comes first here, hogs and their few owners or the
majority, the human beings who depend on pure
water for their health and well-being?

In addition, local factory hog
producers avoid environmental infraction
investigation by spreading and dumping manure in
neighbouring ditches and even Roseisle Creek. And
there are documents to prove that, though I can't
get it anymore because the government has removed
it from the internet where they fine people.

The environmental inspectors have
fined one producer for dumping directly into the
Roseisle Creek in the past. And there are other
members of the hog industry who have been fined,
including, I believe, Elite Swine and one
particular Hutterite colony. But anyway, that has
happened, it's over with. Now, they do this on
weekends because, you know, the environmental
inspectors are not on call or in the field, so
they can get this done on the weekend. And by the
time you get a complaint in, nobody is going to
look at it until the following week.

Now, we have witnessed winter
spreading, winter surface spreading, by
individuals who do so on weekends and at night, as
well. I've seen, along with a neighbour, a
commercial spreader injecting one pass. And that
is people who are hired to pump manure from a
lagoon. They use a hose. It goes to a tractor.
They have an injection unit on the tractor to pull
it through the field, go back and forth. Well,
they use it to inject into the ground. And that's
fine, if they were doing the right amount. But we
watched as the tractor went back over the same
road above the ground. This is sustainability?
This is on a Friday evening again. "Naturally
fertilized", the sign says right next to the
field.

As for myself, well, I have suffered
personal financial loss in the towns of Notre Dame
and Somerset, where local intensive livestock
operators threatened local businesses; telling
them they would no longer be doing business with
them if they hired me to do their Christmas window
decorations at Christmas time for one of the
businesses I do at Christmas. Been doing it for a
number of years in that town, but no longer.
Believe you me, there are a lot of fine people in
the town, don't get me wrong, but these hog
producers, this is what they have done. They
actually did that. They also went after a couple
of businesses in Somerset.

Also, a hog proponent filed a complaint with the Department of Environment, this is after I wrote a letter to the editor in the local paper critical of the hog industry which, against my business which, fortunately for me, proved to be baseless, but was aggravating. But, of course, these acts were cowardly, as these people have never complained to me personally. They prefer to act furtively. And I expect after this presentation it might only increase. This is not a very good picture of an industry priding itself on helping rural communities. Factory hog production seems to breed arrogance, while it corrupts those who promote it blindly.

Now, we have Iowa operators protecting themselves from bankruptcy by incorporating and then suggesting that the government should compensate them when and if disease should strike their industries. That's sustainability?

Enough is enough! 8.5 to 10 million hogs is more than enough. Our lakes tell us the environmentally sustainable limit is reached. Our groundwater is under threat and under boil water advisory in my neighbourhood for sure, and my well
for sure, and at least half of the province, or
just over 40 percent, where livestock inhabits.
It is not just the hog industry, to be honest, to
be fair. The limit, though, in hog production is
reached. Sustainability is not happening now.
Growth is finite and must be curtailed now.
Let other countries take on
sustainable production, if they must, at their own
peril. Let's tell our government to make this
pause into a permanent moratorium. We won't be
able to prove the so-called environmental
sustainability until we let time and our efforts
prove we can manage the hog production our
province currently has. Our waters are our
barometers. Our children should not be our guinea
pigs.
Thanks for hearing me. Good
afternoon.

THE CHAIRMAN: Thank you,
Mr. Harrison.
RUTH PRYZNER, representing Citizens for the
Responsible Application of Phosphorous
MS. PRYZNER: My name is Ruth Pryzner.
I'm a small mixed farmer from the Rivers Alexander
area in southwestern Manitoba. And I've been
involved in activities relating to the hog industry since 1998 as a member of my community, the larger provincial community. And I've been a decision-maker serving my community as a municipal councillor from 2002 to 2006.

As such, I've gained considerable experience and knowledge about the way in which the hog industry operates in this province, how and why decisions are made about the industry in communities and by the provincial government, and have examined a number of proposals in the course of assisting people in being able to have a meaningful and informed voice when a proposed hog -- a proposal for a hog barn comes to town.

The experience and expertise that I bring to share with you is not unique to me. Within rural communities, those people who are forced to face and respond to the demands of the industry have developed significant expertise about how the industry operates; the decision-making approval process, and what they can expect from the province, and the results of having been forced to live with the effects of the industry on a daily basis. We know that the structure of decision-making processes definitely
and significantly influence the outcome of decisions. And I have a lot of experience with that.

Common sense tells us that in order to arrive at sound decisions, seeking and finding evidence-based truth before drawing conclusions and making decisions based on these conclusions is required. This is also an imperative in science-based decision-making. Yet we must also recognize that our understanding of and an ability to understand our world through science is limited. So, too, is our ability to understand our relationships with the natural world and each other.

Because of the subjective nature of our objective relationship to our world and each other, and the limits this places upon us, we have to recognize that there is always a context in which we evaluate and decide. The context in which I tried to locate any search for truth and facts and then, in making decisions, is centered in the perspective of: Will it do harm? And if so, is this harm significant and irreversible? I submit to the Commission that this is a fundamental prerequisite for making decisions in
the public interest.

We know, from our collective and historical knowledge, that the health of the environment is essential to the health of the public. Therefore, acting in the public interest requires that our collective public interest be protected through our protection of our environment. Preventive and precautionary principles must be embraced, facilitated, allowed and followed if protection of our environment is to happen. Indeed, that is what the Sustainable Development Act, as weak as it is, is trying to tell us.

The decision-making process around the hog industry, by contrast, is imbued by the language of litigation. As Lindy Clubb, a committed environmentalist, has described litigation: It is like when you've been told that you are going to be pushed off a ladder. The question you must answer is: What do you want broken; your arm or your leg? The question that should be asked is: What is it going to take to prevent you from being pushed off the ladder in the first place?

So what I'm saying, and what you will
likely hear from members of the public who live in rural communities, is that the public interest has been subsumed under the corporate, private interest. The public interest has not only been ignored and dismissed by most decision-makers, it has actively been put on the back burner in relation to the industry's interests. This has been facilitated through changes in legislation such as the Planning Act, changes in regulation such as the new phosphorous regulations, rules that permit conflicts of interest with decision-makers and bureaucrats, lack of accountability of decision-makers, little redress for members of the public through an effective ombudsman process, rules that hide information, instead of making it available for public use and informed meaningful participation and decision-making and environmental protection processes, and even a conscious removal of the ability for people to use the courts to ensure enforcement of existing legislation and regulations relating to hog operations, among other things.

Members of the public have been assured that the province is there to act in the
public interest and to protect the public's interest in the environment in the decision-making process that has been developed for us. This is simply not happening. The process is not working for the public or for the environment. Our collective experience bears this out. And you will hear details from people how this assurance is fraudulent.

Indeed, your role here is to provide advice and recommendations to the Minister of Conservation. It was the Minister who provided the Terms of Reference for the hog industry review. While the Terms of Reference sound good on the face of it, what is the real objective of the hog industry review? What do we know? We know that the province has been committed to the expansion of the hog industry, and the priority has been a focus on economic factors and economic growth.

In fact, this commitment goes back many years. In 1995, the R.M. of St. Francois Xavier made the decision about a hog operation. And the minutes read that Michael Radcliffe, who was acting on behalf of the proponent:

"Reminded council that hog production
has been identified as an area of agricultural growth by the provincial government. He and colony representatives advised of the local benefits of an increased tax base for the R.M., in addition to the other benefits to the local and provincial economies that result from active agricultural businesses."

In my experience, this advice, and government policy, has not changed, be it a conservative government or an NDP government. The policy of expansion of the hog industry has continued and it has been facilitated by all parties. In effect, there has been no real opposition in government to the hog industry, beyond rhetoric and the scoring of a few political brownie points here and there. Economic benefits, or rather the empty promise of them, drives the policy decisions of all levels of government about the hog industry, not environmental considerations. Sustainability and protection, prevention principles do not drive these policy decisions. Evidence of this lies in many places.

One such place is events around the
introduction of Bill 40, the Planning Amendment Act, and its withdrawal by the government that introduced it, and then the introduction and passage of Bill 33, what is now the Planning Act. The intent of changing the Planning Act was primarily to address the livestock issue, that is the highly divisive hog industry, and to make it easier for municipalities to subdivide land for development.

These two bills were a legal solution to a huge political problem. The political problem was that members of the public, who were concerned about our environment, those who had doubts and sincere concerns, and were in opposition to particular hog operations locating next door in their communities, were becoming educated and effective in slowing down the industry, and even stopping some operations from being approved.

But most importantly, members of the public were drawing attention to the failings of the government in addressing the needs of communities and the environment in the hog industry's expansion. People had puzzled out that the government, acting as industry promoters, were
also the regulators. People had puzzled out, and
have been collecting evidence, that the government
and its representatives, as regulator, are not
acting in the public interest. This was
embarrassing and politically damaging and had to
stop.

So what did they do? They changed the
Act, and they enhanced the role of the Technical
Review Committee. And it was through the
Technical Review Committee that the government
expressed its interest when local decision-makers
were asked to decide on the siting of hog barns.
The Technical Review Committee became the
determiner of what conditions the council could
place on hog production. They must be relatively
reasonable.

And the burden of proof about the
merits of a proposal required under the former
Planning Act of a proponent was weakened, yet the
Terms of Reference for the TRC haven't changed at
all. The TRC still is not required to check the
accuracy of the applicant's information. In fact,
I have been told, by a member of the Southwest
Regional Technical Review Committee, that it is
not the TRC's job to verify the suitability of
spread acres, for example. So whose job is it?

And as a councillor I asked for information to be provided to me to do this myself, I was unable to secure it. I couldn't do my duty as a councillor.

Here is an example, and I've brought you an example of what the Technical Review Committee provides to decision-makers about the environmental appropriateness of spread acres. There is about three examples here, if you could pass them down. And here is an example of what was provided to me when I asked for it and the department, the Technical Review Committee, decided to turn my request into a FIFA request, which meant I had to wait a long time for it.

And I had got the information after the public hearing on the operation. And here is what I was asking for. Because if you get this kind of information, you can put a grid on it and within a one percent accuracy, you can calculate the amount of available spread acres. You don't have to estimate. And that work was never done by the Technical Review Committee.

The Technical Review Committee also makes gross errors. There is tons of examples of this where people in the community have found
gross errors. And I have been privy to communities myself. I have experience with that. The R.M. of Turtle Mountain, for example, the T.R.C. didn't notice a major drain through the spread -- some of the spread acres for a proposed operation.

The R.M. of Portage rejected a proposal, and I've got copies here, because they just didn't seem to notice the marsh.

There was a proposal in the R.M. of Lorne, and, gee, they forgot all about Swan Lake First Nation community in looking at set-back distances and the aquifer.

In the R.M. of Daly, you know, there was interaction between ground surface water, but there they really didn't know anything about that. The local people did, but they didn't know anything about it.

The silencing of the public, the rendering of their participation in the decision-make process from being a meaningful one, through the changes to the Planning Act, to one of going through the motions. That's what I hear from people: What's the point of being there now? And if, by chance, you know, they can get enough
political pressure to bear on the council to get
them to actually look at the proposal objectively.
And that whole process is particularly offensive
to me coming from an NDP government that likes to
think of itself and portray itself as an
environmentally-friendly government.

The actions of this government, under
the leadership of Gary Doer, Minister of
Agriculture Rosanne Wowchuk, and Conservation
Minister Stan Struthers, shows its commitment to
the environment as being mostly lip service, in my
opinion. But it is more than that. This
government has actively removed the ability for
the public to have a meaningful influence on
public policy and decisions about the environment.
Meaningful public consultations have been replaced
by stakeholder democracy. Unless you are a
representative of a group, regardless of your
interest and expertise, you are left out. That's
how they are running the watershed plan exercises
now.

The policy of reducing public
participation in decisions around intensive
livestock operations has been fully supported by
the Conservative Party. And I have referred you
to Bill 33 in Hansard, if you want evidence of
that.

And I would like to say that it is
disturbing to note that the Pork Council at these
hearings was pushing the government to restrict
those who could attend conditional use hearings to
those who lived within a very short proximity of
their proposed operations. So I ask: Where is
the industry’s interest in ensuring that the
larger environmental concerns are addressed in
this process?

Other initiatives of the government,
such as the Water Protection Act and regulations,
such as the new phosphorous regulation, have
little meaning to people who are living with the
effects of environmental degradation, if they fail
to translate into action and are supported by
appropriate resources and research from the
government.

The provincial view, as expressed, in
particular, through the Planning Act, the role of
the Technical Review Committee and government
bureaucracy in the approval and permanent process
for industrial hog operations and livestock manure
mortality management regulation is grounded in the
principle of litigation, as opposed to operating on the principle of prevention or precaution. This is a deliberate legislated and unwritten policy of government that expresses itself in various venues. This policy is reflected in the way in which the technical review process proceeds and the advice and recommendations provided to local decision-makers. And we're getting bad decisions as a result of that.

I want to talk a bit about the phosphorus regulation because an examination of these regulations is going to be central to the evaluation of whether or not the hog industry in Manitoba is sustainable. One of the central points of the Lake Winnipeg Stewardship Board, the Manitoba Phosphorous Expert Committee, scientists, and the government has acknowledged this themselves, is that applying more nutrients to the land than what crops can help use causes build-up and saturation of soils over time. Scientists tell us that excess nutrients can, at any time, become available to move into surface waters. A small amount can cause significant problems. The key to minimizing this is to apply nutrients to land at the rate that crops can use
them. The fact is the new regulations allow for
manure to be applied at varying accelerated rates
until soil test readings, using the Olson method,
exceed 825 pounds of phosphate or P2O5 per acre.

To put this into perspective, the
lowest user, a 24 bushel crop of flax, removes
18 pounds per acre of phosphate with the seed and
straw. A 40 bushel of wheat crop uses 32 pounds
per acre, Canola 58. And 100 bushel crop of corn
or silage uses about 60 pounds per acre. So why
do we need 825? Soil test. Because, basically,
what the soil tests are measuring is about 10
percent of what's actually there. 90 percent,
about 90 percent of the phosphorus that's been
applied, is found in the soils. And this is from
information that is used in classrooms by soil
scientists to teach students about phosphorus.
So, I mean, obviously, a significant amount is
getting into our water. We have got 900 tonnes in
Lake Winnipeg, that's the estimate anyway.

So Pork Council people, at conditional
use hearings, refer to this as money in the bank,
attempting to convince municipalities to approve
the next hog operation but, in fact, it's an
ecological time bomb. The phosphorus regulation
simply is a licence to pollute. The Pork Council claims that manure is applied at agronomic rates. Then I ask you: Why is it going to cost the industry $14 to $28 million to meet the regulations?

It is also interesting to note that the Pork Council chair, Karl Kynoch, wrote in a Winnipeg Free Press article that the industry worked closely with the government in developing these regulations and the thresholds. This is one of the reasons why the information I've requested through the FIFA process becomes so important to access and to analyze prior to any conclusions being arrived at by your panel. It provides the data for Manitoba's science-based assessment of the ecological impact of the hog industry in Manitoba on its soil and water resources. And it also is going to tell us what kind of job the province is doing.

But I have been informed that I have to wait 13.5 years for it. And that's been told to me by the Ombudsman, who is supposed to be the body, the body of the legislature, that's supposed to investigate matters where members of the public think they have been aggrieved by a public body.
They are acting on behalf of the government department to prevent me from getting this information for the purpose of the CEC review.

I have recently been informed by the Ombudsman's office, as well, that I will now have to wait until September 2007 for the complaints that I had submitted about important on-the-ground information having been excluded from access requested that I had submitted last year, such as information about manure spreading and the content. And I have to wait until September for those to be addressed. And they told me it's because there is this large volume of requests that the department has to deal with. That's called blaming the victim, and it's called hiding information. And until this matter is resolved, this interpretation will inform all of the requests that are fulfilled.

And it is important to note that the Finding Common Ground report, in key recommendation number 2, states that:

"The Government of Manitoba should accumulate all relevant data concerning livestock operations in a central openly available information
system, in a geographic information format, to provide Manitobans with a realistic assessment of the sustainability of current operations and their effect on both the local and provincial governments because they recognize that reliable information must be available, not only to government and industry, but also to the concerned public."

I'm concerned that you have advised Mr. Koroluk that you are not prepared to assist members of the public in accessing information through the FIFA process. I think you would be hard-pressed to do a credible examination of the hog industry without this information.

The Manitoba Pork Council has asked that your decisions be science-based. But my question is: Who is controlling the science in this process? The Commission and the industry, as I see it.

No funds have been provided to public community groups for research. Those have been specifically excluded from the process. The funds are available on a reimbursement basis which means
that people have to have the money in the first place. And farmers aren't flush with cash. Rural residents aren't flush with cash these days.

I encourage the Commission to ask the question: Why is the Pork Council taking this political position: To narrow the scope of the investigation and have it science based. When the industry started its big expansion, the approach from the Pork Council was to insist on science-based decisions. When people in rural communities rose to the challenge and presented project proponents with science and local expertise, finding gross errors in industrial hog operation proposals and technical review reports, the Pork Council changed its tactic to insisting on made-in-Manitoba science, arguing that science from other parts of the world and the experience of people living in rural areas and other parts of the world were invalid.

Minister of Agriculture, Rosann Wowchuk, began parroting this line as well. So calls from those who are concerned about the environment or water and the effects of industrial hog production in rural Manitoba on the provincial government to commit resources to investigate what
is actually happening in Manitoba and produce made-in-Manitoba science in order to inform the public have been unheeded.

The vast majority of information has been in the form of publicly subsidized industry-driven studies. Now that the public has been able to identify the significant deficiencies and the lack of made-in-Manitoba science, the Pork Council is calling on the Commission to make science-based decisions. This encourages you to reject the out of provincial science now that will presented to you and see it as invalid. It is a nice little political circle.

I would challenge you to break the circle and acknowledge what Dr. Eva Pip has been saying for years, mainly that Manitoba's pigs, Manitoba's province and Manitoba's environment are not as unique as the Pork Council would have you believe. Biologically, we are the same as the folks who live in North Carolina, Europe, Mexico or Brazil. Pigs are biologically the same worldwide. Our soils, while there may be variations within Manitoba and North America, are not different enough to warrant a complete dismissal of the scientific evidence that has been
introduced in other areas. Regardless of the
position one may take on the issue, the science is
clear: Overloading soils with nutrients beyond
the capacity of plants to use them in a growing
season is bad news for Manitoba soils and bad news
for our water.

Just one second. I'm a farmer. I see
my relationship with the land as borrowing the
land from future generations, which is a concept
rooted in aboriginal traditions. I would
encourage the commissioners to ask why I would be
asking for tighter controls over food production?
I certainly -- it is certainly not in my economic
best interests to ask for this, if I buy the Pork
Council's argument. It is hard enough to make a
living from farming without adding more expense to
what I do.

So I suggest that you have to question
the motivation of all of the people who will be
presenting to you. Are their motivations rooted
in the public interest or are they rooted in the
individual or corporate interest? Does their
message serve to enhance the interest of
communities and the health of the people who live
in them? Does their message serve to protect and
restore the quality of the lifeblood of our
planet, which is our water? Does their message
serve to do no harm and to find ways of restoring
our environment and the ecological and human
communities dependent upon its health or are they
attempting to advance a private corporate
interest?

Our experience has been that the
government's policies and actions are aimed at
facilitating the expansion of the hog industry,
without any regard to the environment or the
health and well-being of the people and the health
and impact in the areas. We have been given
endless assurances by government and industry that
they are good environmental stewards and that
these assurances have been proven false.

Now we are told that the CEC is going
to conduct a thorough review of the sustainability
of the hog industry? Why should we believe this
or the Minister of the Environment? In fact, it
appears that the minister's view is completely
antithetical to a thorough review. In a letter
dated February 13, 2007, Minister Stan Struthers
wrote to Mr. John Fefcak, a concerned citizen:

"The time is right for Manitoba to
take a step back and have the Clean Environment Commission conduct an independent public review of the sustainability of the hog industry and the province's water protection plan. We must work to restore public confidence in the industry and in the provincial government's regulation of the industry."

Perhaps this helps explain why, after criticizing the government's long awaited phosphorus regulation in the Winnipeg Free Press, Norm Brandson is no longer a member of the CEC panel conducting this review.

The politics of pork in this province, as it has elsewhere, has compromised just about every decision-maker in this province. It has split communities and jeopardized the future and well-being of Manitobans, and the environment upon which we depend, in the name of so-called economic development. Your challenge is, in this structurally defective process, to rise above this. And I'm hoping to be delightfully surprised. Thank you.

THE CHAIRMAN: Thank you, Miss
Pryzner.

Mr. Koroluk, I just note we are going
to break at 5:30 for supper. If your people are
not finished, we will come back at 7:00 to finish.

MR. KOROLUK: 5:35 tops?

THE CHAIRMAN: 5:35 tops.

MR. TAIT: Well, Mr. Chairman, and
members of the panel, I certainly do not envy the
task you have before you. Because, in a more
perfect world, we would have been holding this
process and having these discussions some ten
years ago and made our plans upfront as to how an
industry would expand, what some of the pitfalls
would be, and what steps we would take to do some
environmental and social and economic protection
for the people that could be negatively impacted.

But, unfortunately, it's become more
of the norm in Manitoba now where we go ahead and
we do a development. We study its impact
afterwards. And we try to mitigate the negative
circumstances that arise from those developments.

And it's already been mentioned here
today that government is playing multiple roles.
Government, both the current and the previous,
were promoters of the expansion of the intensive
livestock industry. That's a legitimate role for
government.

They also have assumed the role of
being the financier of the development, through
loan guarantees, through the Manitoba Agricultural
Credit Corporation. That's a traditional role of
government. Governments finance projects that
they see as economic development.

The government then takes on the role,
that is only really the role of government, to
play the role of the regulator. That's a
traditional role and a legitimate role of
government. Then, of course, they take on the
role of regulation, enforcer. And there is an
obvious contradiction in those four roles.
Government will not put equal emphasis on all four
of those.

And, unfortunately, and I say
unfortunately, and perhaps my information is not
correct, but I understand there was an application
for intervenor funding to do a regulatory review
on how regulations are developed, and how they are
applied, how they are enforced in relation to the
livestock industry in Manitoba. And that
application, I understand, was turned down. And
because, if my information is correct, and it was
turned down, then that puts a tremendous load of
work, I guess, on the Commission itself to do that
regulatory review.

Because, in my experience and my
observation, and my colleague group here has just
touched on it, there are failures there. And if
we don't address the failures in the regulatory
system, and the contradiction of roles a
government tries to exercise then, of course, we
will go into the future with the same flawed
regulatory regime, with the same results coming
out of it. And I don't like to even anticipate
that happening, but it certainly is a possibility.

In the order of reverse order, we have
seen, or witnessed within the last year or two
years, great discussion about creation of new
nutrient management regulations. One would have
thought, if one was serious as a government, they
would have engaged in this process and had a
recommendation come out of this process before
embarking. So I have to assume that a provincial
government that has invested so much political
capital in establishing these regulations would
consider amending them? In all likelihood, not.
I also was fairly heavily engaged in the discussions that led to Bill 40, which was withdrawn to change the Planning Act. And subsequently it came back with hardly any change at all, known as Bill 33.

And my colleague, Ruth Pryzner, has had more experience than I in this. But I think there is something the Commissioner should address here in your deliberations and study. And you have to ask the question: From what source did the initiative come to change the Planning Act, and who were the main beneficiaries of those changes? And how did those changes or how will those changes protect the environment and the sustainability of our natural environment?

And the same comment can be made, to an extent, about the Water Protection Act and the Nutrient Management Zones. The opposition to nutrient management regulation was extensive. It was well funded, and it was very effective.

But the Commission, I think, you have to ask yourself and understand some things. On my farm, where I circulate the feed source from my land, through my livestock, and from my livestock back out on to the fields, it is impossible for me
to have a nutrient build-up. In fact, I will have
a nutrient loss, to some extent, because some of
the nutrient goes with the livestock and there is
an erosion from time to time. And then I build
some of that up again with legume crops.

But my main concern, in looking at
this industry, is the economic framework in which
it's forced to function. And in 2003, a very
critical report was published. And it was
authored by Dr. Ed Tyrchniewicz and Heather E.
Gregory. They had done a contract for the Federal
Department of Agriculture. That report shows
conclusively that Manitoba had lost its
competitive advantage in hog production at the
time that report was published in 2003 and, in
likelihood, it had lost its competitive advantage
sometime earlier than that.

And it had lost its competitive
advantage for two reasons. One totally beyond any
control, and the speculation was the increased
value of the Canadian dollar. The other was the
cost of importing feed grain. And the
Tyrchniewicz-Gregory study showed that in 2003
Manitoba had a huge feed grain deficit. They were
recording Manitoba Department of Agriculture
statistics. The late Darryl Kraft and a
colleague, Rude, in the same timeframe, published
another report that showed that deficit could be
as large as one billion tons.

So then the question comes, I think,
for the Commission, because I've struggled with
this: Why would the industry and the Provincial
Government continue to finance and promote and
expand an industry in the North American market
when it was clear you had lost your economic
advantage in that marketplace? That is a
difficult one to ask -- to answer. Because then
when you come or say, well, there are some fixed
costs that you can see to hog production, feed
being the largest one. Environmental regulation
fits into that equation someplace, and so does the
cost of labour. What other factors could we
factor in that we could regain our competitive
advantage in the North American market? Because,

obviously, they must have known something, or had
some intent, because I think there is enough
business sense in the industry, and I hope there
is enough business sense over on Broadway, to know
that it was futile to expand an industry with
public loan guarantees when you had lost your
Another thing that has puzzled me, again on the economic side of this whole equation, it was one thing to promote and develop this industry to the level we have, in spite of this huge feed grain deficit.

But almost simultaneously, in the last three years, we're also pushing an ethanol industry. And in the Renewable Fuels Act, the processor of ethanol is required to consume Manitoba-produced grain that doesn't exist. How can that be? These are things for the Commission to discover. How could it possibly be that by developing ethanol, you are going to put pressure on the feed grain supply for the livestock industry you have already promoted, which has an inflationary pressure on feed grain prices, which puts an industry that already was identified as being at an economic, or at a competitive disadvantage, at more of a disadvantage? How could such inconsistency come from the same sources? That question, I think, needs to be resolved. Because, in the end, Ed Tyrchniewicz and Heather Gregory pointed out that if this industry fails, the province is so heavily
burdened with loan guarantees, it could have a
tremendous impact on the financial stability of
the province itself.

Other plans that I sometimes have
trouble understanding if they exist or they don't
understand, is we have some experience in the
cattle industry, where I am, with border closures.
And we've had some outbreaks of disease in other
livestock periodically over our long history.

What does the contingency plan look like if we
suddenly lost ability to export? Because of the
nature of the hog industry and its tremendous
capacity and rapid productive capacity, we would
be in a crisis in days. What does the contingency
plan look like?

I also, as a farmer, just dread the
fact that when you turn on a radio and you hear a
barn burn of any nature, whether it be dairy or
whether it be poultry or hogs. But I think the
Commission itself needs to say: Why is it that we
do not have a building code concerning farm
buildings that would at least give some
preliminary fire protection?

I have a close acquaintance who
attended one fire of a hog barn. The stress of
thousands of animals being burned to death so
affected him that he will never again go to a
fire. He withdrew from the local fire department
over that. He has nightmares over it.

I also cannot help but note, again
today, that when we're talking about industry,
whether it be agriculture, and today we are
talking about the production of intensive
livestock, and particularly hogs, we seem to look
at figures of gross income. Gross incomes
figures, as any of us in agriculture know, are
very misleading.

I would think that the Commission
should look at net income. Look at the net income
that is separated from program support and
off-farm income to give you a true picture of the
economic health of the industry. Because, in my
observation, if an industry is not economically
healthy, I don't see how it can possibly be
environmentally healthy, because people will be
forced to cut corners. And so by breaking those
figures apart, you can get a pictures, I think, of
economic health. And I don't envy you that task,
because there are individuals I'm associated with
who have, for some time now, tried to break apart
what level of program support is going to this
industry and other industries, and we can't do it.
Perhaps the Commission, with its resources, will
be more successful.

I also think that the Commission
should be leery when they hear talk about the area
can utilize this or that level of nutrient. You
have to be site specific. Because you can talk
about the 13 million-acres of cultivated land that
we have available, and that would be about as
rational as taking the population of Manitoba and
spreading it over the same acreage and ignoring
that the Cities of Winnipeg and Brandon exist. It
has to be site specific when you are talking about
an industry. It's the impact of the industry on
the land base that the industry itself is actually
occupying and using.

You also have to ask yourself, and it
came up here today, about: What if? And there
will be instances in the future where operations
will go bankrupt, will be abandoned for economic
reasons and so on. You have to ask: Why did the
Province initially reject bonding for public
protection? That was the first regulation out of
the Tyrchnewicz, Carter Whitaker study, Finding
Common Ground, that was instantaneously rejected by the Minister of Agriculture. Why? And in whose interest did that abandonment serve?

And if we have an abandonment, I think that the Commission should look at how would abandonment take place? And I believe that abandonment would take place by abandoning the structure and then failing to pay taxes upon it and then it would resort to local government. So we have seen lots of that sort of thing, with the knowledge of underground storage tanks, and stuff like that, that were leaking. And there was a huge liability to try and clean those sites up. And those sites became unsaleable. Nobody else wanted them because they would assume the liability. That is an area that I think is worth the Commission taking a look at.

There have been some discussions about public participation. I will maybe get into that in closing. But I would ask the Commission to consider, we have had discussion about the Planning Act, and you will hear lots more. Why would there be a difference between urban and rural planning? Why would it be seen necessary that the Province would have to impose a level of
control on planning and rural areas and not in urban areas? Where does the initiative of that come from? Who can benefit by such a system and by how much and when and how?

There will be a lot of talk in the next weeks when you go around the Province about the issue of water licences being issued. And there was a discussion a bit today, a question came, a good question from one of the Commissioners, about this very issue. I can rattle off some instances where water licences were provided on unproven aquifers and the wells went dry within weeks of the beginning of the operation. So I don't have confidence as to the industry and the knowledge of the Province's main aquifer like the Carvery Aquifer, yes. The Sandilands Aquifer, yes. I have a pretty good understanding of them. But the small aquifers where barns are being located, that knowledge does not exist.

And I can tell you of instances where adjoining wells, on adjoining properties, soon went dry after these wells came in operation. The local land owners, long-term owners, were inconvenienced and had no recourse because you
cannot prove, in a court of law, that your well
grew dry because somebody else pumped the water
out of the aquifer.

I would ask that the Commissioners
also look at the issues of the economics of
over-application of commercial fertilizers. I
don't know of a banker in Manitoba that would
entertain a farmer coming in and saying: I would
like to apply 825 pounds of PTO5 on my field this
year. But the economics of a livestock industry,
or an agriculture industry, in general, that is
hard pressed economically, the economics are that
over-application is a form of financial survival
and environmental destruction.

And when you, in time, you are going
to hear presentations from the public about the
inconvenience of odour. And you saw a short
presentation today from the Council, saying that
77 percent of people surveyed had no negative
experience. That's logical, because the survey
took a list of residents that circled the
operations. Our winds are prevailing from the
west, northwest, southwest. And under normal
conditions, I wouldn't expect the people to the
north, to the direct south, to the west, northwest
and southwest of the operations would ever smell any odour. And if they did, it would be only on very rare occasions, so be conscious of that.

The other issue that I think the Commission needs to ask itself, and to people who come before it, can an intensive livestock industry function without the non-therapeutic use of veterinary drugs? Because if it can't, then what are the -- what are the alternatives? And where does that put the Commission in its final -- in its final -- writing its final report?

When we -- when we finish up this process, you will have heard from many people. And you have heard from some here today. You have heard from residents that have very legitimate complaints about the type of service they have gotten from civil servants, whose only task in life should be to service the public good. These are legitimate complaints. What this type of service does is it damages the public's confidence in government. And from experience, any of us that live in rural communities, we have a hostility to government as it is, without throwing these types of buckets of fuel on to it.

You have already heard today, and you
1 will hear again, that critical information that we
2 need to make a very good judgment as to the
3 success and failure or where we should make
4 adjustments in looking and developing livestock
5 that we have is not available, will not be
6 available until at least 2020. And if the
7 Ombudsman keeps us what he is doing, it might not
8 be available by then.

9 You will hear, as you go around the
10 communities, how when people were trying to
11 actively participate in developing their planning
12 for their communities, how they were overwhelmed,
13 particularly by department staff, and the
14 Department of Agriculture, and also from paid
15 staff from the Manitoba Pork Council.

16 You will hear evidence of long delays
17 in responding to complaints from citizens of
18 environmental infractions to such a degree that
19 the evidence of the infraction is gone and the
20 response to the complainant is: No such evidence
21 was found.

22 And your report, in the end, will
23 emerge from this. And those of us that take an
24 interest in environmental issues, we will get
25 copies. And we will keep them and we will refer
to them in the future because environmental protection and public participation really never ends.

But there is another report that's being written. And that report is being written by the natural environment in which we live in. Lake Winnipeg is writing its own report. The Stephenfield Lake is writing its report. The Little Saskatchewan River is writing its report. And at the end of the day, future critics, observers, will compare the report that came from the Commission, and from this process, and they will compare the one that comes from the natural environment. And they will make their own judgment calls of what success we were in preventing the one that comes from the natural environment as being as bad as I suspect it's going to be. Thank you.

THE CHAIRMAN: Thank you, Mr. Tait.

Ms. Burns.

VICKI BURNS, representing Winnipeg Humane Society

MS. BURNS: Okay. Hello. I'm Vicki Burns, Executive Director of the Winnipeg Humane Society.

And I am going to end on, I would say,
kind of a positive note in the sense that I would
really like to make comments related to how I hope
that the hog industry will move forward. I'm
really focusing on the production systems.

I am not going to talk about animal
welfare because I understand that's not the
purview of this Environment Commission. But it is
really important to understand that the production
systems are really what this industry --
everything else flows from how the pigs are
raised. So I think it's terribly important to
really pay attention to the type of housing, what
type of manure collection system is in place,
whether the animals are raised on straw, whether
sub-therapeutic antibiotics are used. Those types
of issues are all of tremendous importance to
ultimately what environmental effects flow from
this industry.

Now, just a little bit of history.

Since the 2nd World War, agriculture all over the
world has been based on an industrial model. And
in animal agriculture, the industrialization has
resulted in what we all know as intensive
livestock operations. In the simplest of terms,
that really means raising many, many animals,
sometimes thousands of animals, in very confined, unnatural conditions and relying on the use of very small doses of antibiotics to make it work.

The production systems have accounted for the very basic needs of the animals. In other words, their need to be fed, and have some shelter, and so on. But what they haven't accounted for is what we call the species-specific needs of the animals. And the measures that are taken to mitigate that, in other words, the industrialization not being able to take into account the species-specific needs of the animals, the measures that are taken are often part of what we are now witnessing as what we consider the environmental problems.

And I think, you know, what your Commission is going to be looking at is a lot of the issues related to air quality, water quality, human health. For many reasons, we are now learning that trying to raise large numbers of animals in the cheapest ways has other hidden costs. So I believe, and I think lots of other people believe, that this industrial style of animal agriculture really isn't sustainable in the long run. And it won't be sustainable, not until
we can actually put recognition of the animals' species-specific needs back into the equation. So what does that really mean to the hog industry? It is kind of a scientific-sounding term. But specifically it means: What do pigs actually need to do? Well, what it means is they need to root in something. And we have a lot of what they like to root in, and that is straw. So I am really, really urging the industry, actually, you could use the words "begging the industry", to please listen to this, because there is many good reasons that you are going to hear, from all over the world, why we should be using straw-based systems.

Pigs have an innate desire to root around. That's how they spend a lot of their day, if they possibly can, looking for bits of stuff to chew on and eat. And they also have this instinctive need to create a nest for themselves. And here in Manitoba, we do have some straw-based systems. And we know that they are working properly.

Feeding animals what they need to eat, it sounds good but, actually, it's not enough. I know that some of the hog industry have heard from
Dr. Peter Brooks, from the University of Plymouth, who I think gave a presentation recently at the Manitoba Swine Centre, or at least he did in the last couple of years, where he talks about the feed requirements of pigs is far more than their nutritional needs. In other words, they need to feel full. They need to actually fill up on stuff. And allowing them to chew on straw, throughout the day, is the most economical and environmentally-friendly way to do that.

Another of the reasons why our hog industry should move towards straw-based systems is basically economics. Now, since we met last time, there has been some tremendous news in the hog industry. And that is the announcement from Smithfield Foods and from Maple Leaf foods that they are going to phase out the use of gestation stalls over the next ten years. That is an indication of consumer's interests, and that's only going to grow. Consumers are interested in, you know, buying pork that comes from what they consider humane systems. They know that raising pork on straw is consistent with the idea of allowing animals to fulfill their natural instincts. So economically, if we want to be part
of the world market, it's important for us to recognize that now. Please don't dig your heels in about that.

There are also other environmental advantages. Recently I spoke to Dr. Katherine Buckley, from the Agriculture Research Station in Brandon, about the issue of straw-based systems. She is doing a lot of research on that. Now, one of the very positive things is air quality. There is a scientific reason why having animals on straw creates far less odour than having no straw. The ammonia loss is reduced tremendously when manure is mixed in with straw. So hopefully that kind of science will reach your hands because it is very important.

On that note, I really respectfully urge you to visit barns. If you haven't already, visit and compare your own personal reaction to being in barns that have the liquid manure and being in barns with straw based, because there really is a very big difference.

One of the other environmental -- positive environmental impacts that come from straw-based systems, according to Dr. Buckley, are that when the straw-based systems compost the
manure before they put it on the fields, it actually helps a lot in terms of water retention of those soils. So if the composted manure is being put on soils that is highly erodible, it is going to help decrease that erosion. And with what we're hearing now about climate change and the predictions about drier summers and so on, building in something that's going to actually help our soil retain water just makes a lot of good sense. So that research is right in our hands here in Manitoba right now, and we can refer to that.

One of the other issues related to the public's heightened interest in climate change now is the -- what I consider the fairly recently recognized contribution of animal agriculture to greenhouse gas emissions. You know, that's just something that a lot of us have not really paid very much attention to, but it's going to be -- there is a lot more attention that's going to be paid to it in the next few years, I'm certain of that.

And, ultimately, what that may mean for animal agriculture in Manitoba, and all over the world, is it may mean that there are going to
be fewer animals raised for food. So I don't think it's crazy to predict that we are probably going to have to decrease the number of pigs who are raised in Manitoba. But if we make sure now to set our industry on the right course, we can ensure that, even if we raised and produced only half the number of pigs over the next ten years, if we do it the right way so that the world market is there for that product, and we build in that producers get compensated more per animal, we are going a long way towards long-term sustainability.

Now, on the note of fewer animals, I just want to make the point that Maple Leaf, one of the largest hog producers in Canada, have announced that they are very significantly decreasing the size of their sow herds. And I think that's really an important factor for the industry to pay attention to.

One of the other developments that's very recent, and that should be a red flag to our hog industry, is that in the Unites States there has been a lot of attention focused on the non-therapeutic use of antibiotics in animal agriculture. And recently, I believe it was just in the last month, there was a bill introduced,
both to the Senate and to Congress, that essentially it could combat the antibiotic resistance crisis in human healthcare by phasing out the non-therapeutic use of antibiotics in animal agriculture. This bill is supported by more than 350 groups in the United States, including the American Medical Association, the Infectious Diseases Society of America and the American Academy of Pediatrics.

And a recent report that was co-authored by Dr. David Wallinga, from the Institute of Agriculture and Trade Policy in Minneapolis, his report has demonstrated that the routine use of antibiotics in livestock production is contributing to the rise of antibiotic-resistant germs in humans. And that is something that is going to really create much more public concern. And there is no question that is going to come to Canada. So let's be ahead of the game and build in systems that can work without using those sub-therapeutic antibiotics. Raising thousands of animals under one roof in tight conditions, it is simply not going to work, unless you can give them those types of antibiotics, and that's going to stop soon.
So to conclude, I want to reiterate that we do need to pay attention to all of those recent developments. The Maple Leaf and the Smithfield's announcements about the phasing out of sow stalls; the news about the overall impact of greenhouse gas emissions from livestock production; the proposed legislation in the States about phasing out the non-therapeutic use of antibiotics; and the dire straits of Lake Winnipeg. Really, it is time for Manitoba to get serious about building a hog industry that is sustainable well into the future.

Our province is heavily reliant on agriculture. Really, we should all be looking long term, not at the profits over the next five years. But if we care about our children, and our grandchildren's future, and the future of farmers in this province, we can see now what needs to be done. And I really beg all of you to pay attention to that.

And we cannot pay attention to what this industry is -- we can't do it without paying attention to what the industry is built on. They are animals. I'm sorry to have to remind you of that, because I know you don't want to pay
attention to that, but they are animals. And in order to have it long-term sustainable, we need to recognize the species-specific needs of those animals. We need to put respect for nature and for animals back into the equation. If we can do that, we will go a long way towards ensuring that our hog farmers will have a livelihood to count on, and that we will have an environment in Manitoba that's safe and healthy for all of us.

Thank you.

THE CHAIRMAN: Thank you, Ms. Burns.

Do you have any wrap-up, Mr. Koroluk?

MR. KOROLUK: No.

MS. JOHNSON: Mr. Chairman, can I just jump in for a second? Can I get copies of your presentations to put on the record, just as a reminder, because it's an important part of this whole process. Thank you.

THE CHAIRMAN: I would like to thank Mr. Koroluk, in particular, for putting together this group. And I would like to thank all five of you for your very thought-provoking presentations this afternoon.

We are now going to break for supper. We will be back here at 7:00.
(PROCEEDINGS RECESSSED AT 5:31 P.M.
AND RECONVENED AT 7:01 P.M.)

THE CHAIRMAN: Good evening. Could we come to order, please? Good evening. I would like to come back to order. So far we have had four people request to make presentations this evening. If anybody else would wish to make a presentation tonight, please let Joyce, at the back of the room, know.

The first person we have up tonight is Mr. Van Slyke. Mr. Van Slyke, would you please state your full name for the record, and then I will have the commission secretary administer the oath?


MR. SLYKE: My name is Victor Van Slyke.

VICTOR VAN SLYKE: Having been sworn in, presents as follows:

THE CHAIRMAN: You may proceed.

MR. SLYKE: Good evening, everyone.

As you know, my name is Victor Van Slyke. And ATD Waste Systems is a private company incorporated in British Columbia in 1993. We started ATD to look
for a vegetable waste/landfill solution, but when
we were told that the hog industry had a much more
pressing problem, we adapted our expertise to this
new challenge. Suffice to say, it has been a long
and fascinating learning experience.

ATD has created a hog manure recovery
system that eliminates environmental concerns and
resolves nutrient balance problems to finally
allow a vibrant and sustainable hog industry to
move forward.

The system makes a dry fertilizer,
clean water, and it works because it takes manure
straight from the barn.

We've obtained two patents, and are
pending on a third, and have been assisted along
the way by the University of B.C., Chemical
Engineering Department, Hipp-Anvil Engineering
Ltd. of Vancouver, the North Carolina State
University, and members of their staffs.

Here are the targets we set for the
system.

First, we recognized that we had to
develop an environmentally sustainable and
economically viable system. The environmental
issues were simply set at not discharging to the
environment. The drive to economic viability was more troublesome. While odour reduction was largely achieved, we found that by itself it could not provide the returns we needed. So, we developed an integrated approach that, while more costly, provided the investment returns that make it viable. We also identified some value-added benefits that are not included in those returns.

Secondly, we wanted to install the system on any farm, in any climate, and it had to be easy for an operator to use. That meant finding processes and equipment used in other industries so we could utilize their experience to make things easy to operate. We tied them together in an operating system that can prompt an operator and be remotely monitored by ATD to keep it running efficiently. We had to buy what we needed off the shelf from suppliers that could support us anywhere in the world and make things easy to repair. That's where we found that old technology can be applied to new problems. It seems to be true that there is nothing really new in the world. They are just being rediscovered. Lastly, because of the weather, and a host of other reasons, we wanted to avoid anaerobic
treatment. Well, we did that.

In terms of viability, we had to get an idea of an operator's current costs so that a comparison to our system could be made. There were some surprises along the way, for example, nitrogen losses in long-term storage were one, water consumption was another, and now new phosphorus rules and expansion are creating nutrient imbalances for some.

We recognized that each operation would be unique. And because of that, we developed a spreadsheet that reflects the engineering characteristics of our system and its costs, thus allowing us to customize a solution with an operator's information to get an estimate of the potential costs and benefits before any commitments are made. I will give you some ballpark figures as to costs later and explain how it works as we go along.

It would be nice to think we could just compare the two costs, an operator's and ours, and make a decision. But in putting a total solution together, we found that such a comparison was going to be difficult. We had created a major new approach with benefits that could only be
valued by the operator.

So, while the quantifiable items are largely dependent on the individual operation, I would ask for the moment that you accept that:

You won't need manure storage facilities.
You won't be disposing of manure slurry.
You will use less water.
You will produce fewer odours and improve air quality.
You will do it on the land you have - even expand on it!
You will capture more nutrients.
You will reduce greenhouse gases.
You will be supported by ATD, long term.
Now, with all that in mind, I would ask that you put a value on these other benefits. Yeah, find me one, there you go.

Regulatory permitting process is simplified. Reduced odours and water consumption, coupled with the elimination of potential threats to the environment by manure storage facilities and land disposal, will help the permitting process proceed. A strong presentation at public hearings will now provide a positive opportunity to reinforce an operator’s commitment to the
Reduced odours. How do we do it?

There are two major components in the odours people complain about, ammonia and the by-products of anaerobic activity. The ATD solution is to stop odour production before it begins.

Ammonia is cautioned by enzymes produced by bacteria in feces attacking urea in the urine. By using conveyors at rest, we separate the feces and their bacteria from the urine in the barn and move the urine out immediately. This allows the feces to dry aerobically until the end of the day when the conveyor belt is scraped clean, drastically reducing ammonia production and preserving urea.

All manure is treated within 24 hours.

Low ammonia means:

Improved health for the animals and staff.
Lower vet bills.
Lung lesions reduced or eliminated.
Better feed conversion and earlier to market, some say as much as three days.

The other major components of the odour are produced by anaerobic activity. Prompt removal and treatment just doesn't allow that to
happen. There will be no hydrogen sulfide safety concerns.

We aren't perfect! Barn smells will continue to come from evaporation on the floor, the animals themselves. We still discharge to the air. Changes to barn ventilation can direct exhaust to a biofilter or other odour-destroying equipment. Our burner has been designed for biomass fuels, we use feces, with discharge levels well below the current regulatory requirements.

We also discharge moist air from the dryer, which is directed to our only biological treatment facility, an all-weather biofilter.

Liquids are treated by membrane filtration, heat, pH shock and UV radiation to ensure pathogen-free water for reuse. Your feed and wash-down water volume will be cut in half to reduce costs as water becomes more expensive and, in some cases, in short supply. The system can be configured to handle irrigation with reduced suspended solids.

Computer-assisted operation. The system components are tied into a monitoring system that ATD can monitor remotely, should it be required. System prompts help the operators
respond to any action that may be called for.

Pellets will carry the analysis provided by the herd, but can be supplemented as required. They are sterilized by the heat of the dryer and will be weed-free. By exporting surplus nutrients, hog density can be increased on the same acreage while maintaining a nutrient balance.

Better crop fertilization. Nutrients can be applied more accurately and conveniently, with pellets having a consistent analysis and a high organic content.

More heat. Hot water heating is available for barns or residential use as a by-product of drying.

A new brand is created. Environmentally sound management should receive market endorsement and a better return. This is the differentiation exporters are looking for as part of their "Canadian" brand.

Easier to find staff. New recovery techniques, better air, cleaner surroundings will encourage farm employment.

Should an opportunity to relocate present itself, as a neighbour who doesn't stink, doesn't discharge to the land or water, and
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1 conserves water, you can locate closer to a feed
2 mill or packing house to reduce transportation
3 costs, a major item.
4 Reduced footprint. New operations
5 will no longer need disposal acreage or manure
6 storage facilities. Employ that capital to
7 capturing nutrients in pellets and increasing
8 populations.
9 There may be other biomass fuels
10 available that are under-utilized, for example,
11 flax and hemp straw.
12 New sources of revenue. Greenhouse
13 gas reduction credits and fertilizer sales provide
14 stable cash flow that is not affected by the hog
15 market, providing some shelter from market swings.
16 Money used for current manure recovery can be
17 redirected. Litigation may be avoided.
18 Dietary changes can be refocused.
19 With odours and manure nutrients under control,
20 dietary changes can be directed to the production
21 of meat, rather than environmental impact.
22 With the odours associated with manure
23 storage facilities and their management eliminated
24 and barn odours reduced, the negative impact of
25 those old features can be reversed.
So, in summary, our targets were:

No discharge to the environment. As there is no manure storage facility, nor land disposal, we have eliminated them as sources of potential trouble, while reducing greenhouse gases by more than 65 percent. With anaerobic activity eliminated, then so are greenhouse gases, no matter how they are going to be measured. All water is now either part of the pellet or water vapour exhausted to the biofilter, while the rest is cleaned for recycling to the barns. All solids and materials used in the process find their way into the pellet, including the ash from the burner.

There is no new technology. We have found a new way to use the existing technology.

Economic viability: By eliminating a manure handling cost center in favour of an investment in a new fertilizer manufacturing business. By creating new revenue streams from fertilizer and greenhouse gas emission credits, this vertical integration and diversification places a safety net under hog market prices.

The capital budget estimates for a 10,000 place grow to finish facility in Canada
runs in the area of $5 million, with payback in less than 11 years. This is approximately equivalent to 6,800 sows, farrow to wean, 53,000 nursery pigs, 5,000 sows, farrow to feeder, and 1,300 sows, farrow to finish. A 20,000 place finisher in Canada comes to about $7.5 million, with payback in about 7.5 years, excluding interest costs. This capital outlay sounds like a lot, but remember there are four sources of revenue.

There is the sale of surplus fertilizer, the sale of greenhouse gas emission credits, recovery of current manure managements costs, and avoidance of future manure management costs. These four cash flows, and the tangible results from the value-added benefits I spoke of earlier, will turn a manure management cost center into a profit center.

Over the last few years, when people have raised objections to hog farms, I have often said that there is light at the end of the tunnel. Well, today we are out of that tunnel, and it is now up to us to move ahead as fast as we can.

Now, I would like to discuss the process in a little more detail.
THE CHAIRMAN: Can we not have conversations in the audience, please?

MR. SLYKE: I'm sorry, I didn't hear that.

THE CHAIRMAN: I was just asking that nobody carry on conversations in the audience.

MR. SLYKE: Okay.

THE CHAIRMAN: You may proceed.

MR. SLYKE: I think, starting here with the barns, remember we've got two streams, urine and feces. Let's follow the -- isn't that funny. Okay, let's take the liquid stream here, the urine stream first. Starting with the conveyors in the barn, the unique shape and slope of the conveyor at rest allows the urine to drain immediately into the pipeline that will take it to the treatment building where, after some pre-treatment, it will be passed through the membrane filter. If necessary, the filtrate will then go to an ammonia extraction process, which uses heat and pH to remove the ammonia and convert it to ammonium sulfate, which will eventually be added back to the solids prior to drying.

The liquid is then passed through the ultraviolet radiation process, pH adjusted and
cooled before being returned to the barns, where it will be mixed 50/50 with your normal feed water supply. The pH adjustment is done with lime, which eventually finds its way into the pellet, along with some sulphuric acid, which brings the pH down to normal range.

Now the feces path: Having allowed the feces to remain exposed to air circulation for up to 24 hours, the conveyor is rotated and scraped. This will take about five minutes or so each day. The feces are dropped into a bin, which is transferred to the treatment building to be fed into the dryer to produce fuel for the following day. As soon as that is done, the lime sludge, burner ash and ammonium sulfate are added to the remaining feces to be dried and pelleted. The pellets are then moved into bulk storage.

We expect a 10,000 head operation to produce about 2,500 tons of pellets per year, with an NPK of about 10-8-7, with sulphur at 4, calcium at 4 and magnesium at 1.4. And that should sell for about $200 a tonne, based on equivalent chemical prices.

Bulk chemicals are lime and sulphuric acid, which are consumed and find their way into
the pellet. We took measurements of the nitrogen available on manure discharged fresh from the barn and compared it to the nitrogen left when the storage facility was pumped and distributed. That is where we found a substantial loss of nitrogen, close to 70 percent, which confirmed other studies.

As you can see, there will be no further need for flushing. So if you are flushing now, we can reduce your water consumption by more than 50 percent, and pumping costs are reduced accordingly.

Ammonia in the barn will be substantially reduced, and what little anaerobic activity occurs is internal to the feces itself. The dryer uses biomass, the feces or some alternate that might be available, and while generating carbon dioxide, it does not count against us in determining CO2 reduction. Within the next few months, we may finally have some idea as to the remission credits that may be available, and the extent that a fair market price be obtained for them.

While the industry is coming to grips with increased pressure on both the economic and
environmental fronts, we have been active in obtaining credibility for our product. We have been short-listed by the North Carolina State University to supply up to four conveyor systems to their experimental hog facility. Our patent application is currently being reviewed, and we expect approval any day now.

So, in conclusion, you may have found our website and will already be aware that we are searching for a demonstration site. Hopefully, it will be an operator who has 4,000 to 10,000 head in a reasonably small area who wants to expand and needs a solution to his problems. In Canada, we propose to build a 10,000 head treatment facility, at no cost to the operator, but with his promise to buy it at a discount, to be negotiated if we pass agreed milestones. As attractive as that may sound, we have no applicants at this time. The reason is simply "risk avoidance". Operators will not take on significant debt, no matter what the payback is, until the concept is proven. In other words, no one wants to be first.

The answer is to use the approach that worked for Denmark in their adoption of biogas plants. Let me quote from a presentation by Bruno
S. Neilsen at the 2007 Banff Pork Seminar, and reported in their Proceedings, pages 237-243:

"From the outset, the plants had to be commercially viable. Their economy was based on energy sales. Through the 1980's and 1990's, the development was promoted through a close public-private co-operation. This included public funding for research, development and up to 40 percent investment grant in full-scale demonstration plants. The subsidy for investment in biogas plants was gradually reduced from 40 percent to 20 percent, and has been reduced to zero by the government."

This is how new technology can be jump-started in our industry, a one-time reduction in capital cost that allows an operator to choose the technology that works best for him, while providing the public with measurable and immediate results in terms of reduced environmental risk and impact, conservation of resources and an expanding agriculture sector economy.

And that concludes my presentation.
THE CHAIRMAN: Thank you, Mr. Van Slyke. So you don't have one of these in operation at the present time?

MR. SLYKE: That's correct.

THE CHAIRMAN: Do you have models that you've used?

MR. SLYKE: Well, as you can imagine, you can't do this on a small scale. But, yes, we have done field trials on some aspects, lab work on other aspects. And a lot of it is just lifted right out of engineering textbooks. So the challenge to us now is basically to connect the pieces. But we've worked with the engineering people at UBC and the Hipp Engineering people in Vancouver. They have designed it for us. They have laid it out. We have produced mass balances. We know how much energy is going to be used and that kind of thing. So we're pretty confident on the hardware and what it will do.

What we're not confident about, and this is why our demonstration period is set ahead about two years, is the measurements of how much material has to be processed. With every operation that we've been to, it's been almost impossible to determine how many gallons of manure
are produced a day and what the solid levels of
that are. Every operations a little different.
And, of course, with the different mixes from, you
know, sows to weanlings to whatever, all of that
changes a little bit.

So we want to take our demonstration
site up basically one step at a time, build it,
put it together, get our measurements, go the next
step. And we think by the time we have done that,
and gone through several seasons to make sure
there are no seasonal variabilities that we
haven't contended with, that we have pretty well
gone through 18 months to two years.

THE CHAIRMAN: Are you close to
finding a demonstration site?

MR. SLYKE: I'm sorry?

THE CHAIRMAN: Are you close to
finding a demonstration site yet?

MR. SLYKE: I've got two people in
Manitoba who said they would like to be number
two. I have got one fellow in Alberta who we just
started talking to, and I'm just not certain what
he is going to be doing. So I think we have got
some interest. And if I can find a way to get
that bridge financing to build the first one, that
THE CHAIRMAN: And is this the type of technology that, once it's proven and in place and mass produced, the price will come down?

MR. SLYKE: Probably not by very much. There are some things that will come down just because we can buy more than one. You know, actually, when we first started this, one of our biggest problems was to find stuff that was small enough. The ammonia extraction, that kind of thing, they build these things in massive sizes. And 10,000, 20,000 head farm doesn't need anything that large. We have had a struggle to get smaller versions.

And the other side of that particular coin was that if we could find a way to reduce the break-even point for an operation, for this kind of thing to be adopted in any way, we can get down to the smaller farms. But right now the economics suggest to us that there is a certain volume that we're going to need to process in order to make it fly. And, of course, that's without any subsidy or anything like that. Give me a subsidy and I'll change my numbers.

MR. MOTHERAL: This is probably on the
technical side a little bit. You have produced pellets? You have produced pellets, have you?

MR. SLYKE: No.

MR. MOTHERAL: You haven't produced anything yet?

MR. SLYKE: No.

MR. MOTHERAL: This is all a conception?

MR. SLYKE: Yes.

MR. MOTHERAL: So I was looking at your analysis or hope that it would be 10-8-7, that's your analysis of your fertilizer. And at $200 a tonne, from just a quick calculation, it is probably -- per pound of actual nitrogen, it is probably twice as expensive as chemical fertilizer.

MR. SLYKE: Well, the calculation of MPK on the finished product is complicated somewhat by the amount of feces that we burn ourselves to make the heat that we are going to need to dry the rest. So some of your solid material coming from the barns is going to be used as fuel. Now, that all changes if you can find some other biomass to use in the dryer. So you lose some of your solids in the burner, that's
true. But to the extent that we can pull some of that nitrogen off as ammonium sulfate, we sort of stockpile that while we're making fuel. And then when we get to pelletize the balance for the day all, of the add-ons come back on to that. So it tends to boost the analysis up for that to that point of view.

MR. MOTHERAL: More or less I was questioning the price of $200.

MR. SLYKE: Price. Well, what we did is I think that $200 price that I'm quoting right now is based on some Manitoba -- where was it? Steinbach, Manitoba, there is a fertilizer, a chemical fertilizer supplier somewhere around there, and they have been giving me current fertilizer prices. And I've been taking those, extracting the nitrogen price, the phosphorus price, the potassium price and then relating that back to what our analysis is going to be, and that's how we got to the $200.

MR. YEE: Just one question. You mentioned in your treatment of your urine strain, prior to the membrane filtration you mentioned that there would be some pre-treatment. What sort of pre-treatment would that be?
MR. SLYKE: Well, some of that is a little bit on the proprietary side. But essentially what we want to do, in order to make the membrane system work as effectively as we wanted, it was a matter of size. And when we say productivity, on the -- when you process anything through a membrane, you basically have git one incoming stream and two output streams, so one will be called the concentrate and the other is not. Well, if you aren't careful, you wind up not getting a very good job the first time around.

So what we found out, in the end, and this was done real, by the way, in a lab down in California, because we couldn't do it in Canada. We had to get some urine from North Carolina State University that they had collected for us, ship it across to California, some membrane people there developed a system for us to keep the size down by essentially running the urine through the darn thing twice in the same day, but to pre-heat the urine to make the membrane more effectively.

And we also add a little bit of chemical there that helps us keep the potassium separated as well. Because that was a big problem with the membrane systems, potassium just seems to
leak through just about everything, so we had to
doctor it up a little bit that way. But, yeah,
it's a tricky part of the business. But that's
the part that we actually did live.

MR. YEE: Are there any residues from
the treatment process that have to be dealt with
separately?

MR. SLYKE: I am not hearing you very
well over here.

MR. YEE: Oh, sorry, are there any
residues from the treatment process?

MR. SLYKE: Any residues?

MR. YEE: Yes.

MR. SLYKE: No, not that I've
determined up until now. All of the bulk
materials that we buy go right into the pellet or
are used in modifying pH backdown, that kind of
thing. Even -- well, I suppose, in the long run,
one might look at the membrane cartridges and say,
yes, sooner or later you will probably have to
replace them, but that's about the only other
thing. From a consumer point of view, no,
everything goes into the product.

THE CHAIRMAN: Thank you very much,

Mr. Van Slyke.
MR. SLYKE: Thank you.

THE CHAIRMAN: I wish you well in this. It sounds like a very intriguing and potentially very positive initiative. And I hope you can find some way to bring the price down a little.

MR. SLYKE: Well, that would certainly be nice from everybody's point of view, yeah. That's what they said in Denmark.

LINDY CLUBB, representing Wolfe Creek Conservation Group

THE CHAIRMAN: Thank you. Lindy Clubb. Miss Clubb, would you state your name for the record, please, and the commission secretary will administer the oath?

MS. CLUBB: My name is Lindy Clubb.

LINDY CLUBB, having been sworn, presents as follows:

THE CHAIRMAN: You may proceed.

MS. CLUBB: I represent a 20 person group called Wolfe Creek Conservation. It's named after a tributary to the Assiniboine River. Our mandate is to keep the water clean as it enters our local lakes, rivers and streams. It comes from pristine sources inside Riding Mountain
National Park. The water coming from the park is clean because they have restrictions on harmful development. We're in southwestern Manitoba.

We believe that intensive hog operations are incompatible with our environment and could contaminate our water. We've lived with the smell of manure in our nostrils, and we have all raised hogs in barns. We know how powerful their waste is. We have lived with some environmental degradation from feed lots and smaller barns, but we haven't yet lived with an intensive hog operation, nor do we want to.

We consider our air, water and soil unsuitable for large concentrations of hog manure. We have high water tables and slopes, frequent potholes and abundant wildlife in our area. It's mainly mixed farming.

Our councillors are small business owners and sausage makers who oversee road maintenance and zoning applications, hardly the experts needed to collect and review information on licence conditions to prevent pollution from huge hog operations.

So as community volunteers, this is our story: Around 2003 a land owner on the
Menzies Road applied for a permit to put a large hog barn on his property. It was a 2,500 sow, farrow to nursery, 210 grower to finisher operation. The proponents required approximately 22-gallons of fresh water per day, per pig for washing, drinking, cooling and domestic use. That amounted to millions of gallons of water per year.

There are more than 20 neighbouring farm families that share the same supplies. The use from this one hog barn was enough to lower the nearby water table, that was our first concern. I mean, in 2005 the groundwater was so saturated in our area that digging a six inch hole would bring bubbling water up to the surface. So if manure was injected in the soil that year, it would come up and run off.

Last year we had a year of drought. And we can safely assume that millions of gallons of water didn't enter the aquifer for recharge, but recharging the aquifer was left out of the topics discussed during the hearing process. The proposal proceeded in the absence of information about our local water, and in the presence of our policies in Manitoba that don't call for efficiency or conservation. Instead,
it's all about supply. That's our regulatory environment.

There were very few studies in place for the Odanah Shale Aquifer, which were older. But we knew of an uncapped well on the property, which is an entry point for groundwater contamination. So I started talking to Bob Betcher, who is our provincial groundwater expert. He's not here in his socks today, so I can say anything I want, can't I? I asked: What would happen if the toxic waste from the hog manure, for instance, got into the aquifer? He said the aquifer was like a big lake beneath us and it circulated, and it could go moving from two to fifty miles per hour, so contamination was impossible to track.

We attended the hearings for the proposed hog barn and were assured the proponent would cap the well as a gesture of good will. It hasn't been capped yet. The spread fields for the waste were another point of entry for pollution. We have predominantly clay soils, with some sand and gravel lenses that is allow penetration for aquifer recharge. No one is testing their soils enough, we were told. One to four tests per
section is inadequate. Soils can change texture and composition and nutrient content within inches. But soil tests are expensive. So in our province, and in our sections, we test once and hope for the best.

The councillors refuse to do more soil tests, even though we asked for it. And they refused to make the test results, if they have been done, public as a condition for the operation of this proposed hog barn. Why? Because it's an added cost and it's not our custom to do it.

So we had no assurance as a community that aquifer recharge areas were to be located and protected from contamination. Although, I don't think it's unreasonable to expect minimum precautions to be taken and back-up plans to be in place for any kind of operation. I mean, I do it myself. How much would it cost for us to clean up an aquifer?

And that's where we started to feel let down by the community conditional use process. After hearing all of the ways an accident could happen, council asked for a performance bond from the proponent. The applicant withdrew. It was acceptable to make a proposal when the community
could have paid for clean-up, but the proponent wouldn't contribute to prevention or insurance for any kind of a bad performance in the future. That means that the proponent was looking at a profit of such small a margin that he couldn't afford to put anything into practice to help the environment. We didn't think that was a good idea.

Our council's motives for determining this operation rested on possible economic gain, certainly not on ecological costs. To prove that it's a political process, there was an election, with new councillors coming in the following year, and the proponent reapplied with the original permit, which brought a new round of suggestions from us to prevent pollution. Performance indicators were absent. Although they are in place for a lot of businesses, why not this one? Where is the evaluation of or assurances that a manure management plan is followed? Because our plans are only as good as they are put into place. And in this case, manure management was not confidence inspiring, let's say. Council claimed the provincial licensing departments were the experts and the
performance reviewers, but we uncovered huge information gaps in that process. The Technical Review Committee in Brandon gave the go-ahead for spread fields for this barn and missed a critical fact that Wolfe Creek runs right across them and would carry toxic waste into our rivers. There was no on-the-ground truthing. There was no verification of the information given by the proponent. Without local people being consulted, the province isn't protecting the public's interest. They certainly weren't there to protect our interests.

Run-off to surface water is common on our heavy soils on sloping land. And there were issues of siting the barn. And we don't see issues of siting the barn in the quest for profits. Bonnie Nay, from Turtle Mountain Municipality, writes:

"The Southwest Technical Review Committee erred in their analysis of the applicant's proposal for the factory hog barn."

The Southwest Technical Review wrote, and I quote:

"There are no rivers or municipal
Wrong! There happens to be a major municipal drain in this bog-like area called the Ninga Channel. The Ninga Channel will drain seepage or run-off of untreated sewage from the mega hog barn site into the Pembina River, into the Red River and, ultimately, into Lake Winnipeg.

If the province or councillor or proponent wouldn't mitigate harm, then we tried to. We recommended above-ground storage of manure to avoid possible groundwater contamination. It was turned down on the basis of expense. We advocated for triple liners for in-ground storage. And they work the best, but we have been warned that liners only last for three years because of the ammonia content and the waste; it wears the membrane down. Seepage penetrates particles of clay soil that line the lagoons, and it is a common problem. But the proponents and our council were willing to risk it for the sake of cutting costs.

We asked for moats to line the lagoon area, in case of floods, so the waste didn't get washed downstream in spring melt or the sudden frequent storms events that we get up there.
Farmers are often in the business of moving earth, but this proponent didn't want to waste the time looking after his own waste path, and our councillors didn't see the value of a preventive measure like that.

So, you know, in the end, we decided it was to the advantage of the producers to pollute. And they can do so since there are so few inspectors. If it is necessary to cost cut to that extent, what would happen to the industry if we began charging for resources like water? How long would the industry last? Not very long.

The hog farmers monitor themselves, for the most part, since we only have one inspector for the entire southwest area. He calls the hog barns two weeks in advance and checks a small percentage of the lagoons once a year. Hardly matching in practice the principle, stated by the Manitoba Pork Council, that land around hog barns is more closely monitored than any other farm land in the province, which to me now means that other private land isn't monitored at all in comparison.

Our next environmental concern was odour. We discovered a good made-in-Manitoba
product called the Gulla Guard. It is a few steps
above the practice of spreading straw mulch over
the lagoon for odour control, but that was
dismissed as too expensive. So without odour
control, the six families in close range of the
barn smell and spread acres wouldn't be able to
work in their large gardens.

If Cassie Leganchuk, who rises at dawn
to work like ten men in her three gardens, gags
when she is out there, her family will go without
produce. The gardens produce food for every meal,
all year round.

If Matt Kowalchuk's lake stocked with
rainbow trout gets an algae bloom from
contaminated run-off, he goes without cash and
food.

If Roger Desilet's customers are
turned off by the smell, he loses the ability to
provide both his family and the community with a
lovely organic honey product, his main source of
income.

So how much of an advantage can it be
to the area and the environment? Hog barns reduce
environmental air quality. The techniques touted
by the industry, such as manure storage covers,
shower belt and ventilation systems, might be available and effective, but they were avoided in our situation as too costly an option.

Instead, we were faced with losing customers, visitors and our own ability to travel down the road that led to the beach. The onus of proof is on the dissenters right now in the community conditional use hearings. It was not an easy process. And the onus was on us to prove what we said, to offer up facts, which we did. But the emphasis is certainly not on the proponents in the industry to back up what they are saying. It's backwards, the system right now. And it's a disaster in the waiting, and the premises are wrong. This is a question of scale.

When the applicant withdrew his request for a barn permit the second time, it was for economic reasons. In the intervening years, in a climate of falling prices for pork, he decided, with the opposition in the community, and the falling prices, he wasn't going to go ahead with the barn. That's the reason we don't have one there. It certainly wasn't because of the facts that we presented that our council dismissed.
So if the profits for pork are based on discounting the environmental costs, and keeping what monitoring we do have a secret, then we are not cataloguing the true costs of and to our water, and this form of industry would be over. Please recommend an end to the proliferation of hog industries and their expansion in our province.

THE CHAIRMAN: Thank you, Miss Clubb.

MS. CLUBB: You're welcome.

THE CHAIRMAN: Thank you very much.

Mr. Harold Froese.

MR. FROESE: Good evening.

Harold Froese, representing Manitoba Egg Producers

THE CHAIRMAN: Would you please introduce yourself for the record, Mr. Froese?

MR. FROESE: My name is Harold Froese.

HAROLD FROESE, having been sworn in, presents as follows:

THE CHAIRMAN: You may proceed.

MR. FROESE: Thank you. Thanks very much for this opportunity to present. I would like to present from two different perspectives. I've been asked to present some ideas on behalf of Manitoba Egg Producers. And then in the second
part, I would like to present some ideas in terms of what I do in my own personal situation on my own farm.

I should probably introduce myself, because I think it will help to understand my comments in terms of their perspective. I have been -- I am a full-time farmer in the Oak Bluff area just outside of Winnipeg. And I have been a director on Manitoba Egg Producers since the mid-1980s. I have also been a director on the -- the Manitoba director on the Canadian Egg Marketing Agency for a number of years. And one of my roles there is as chair of the Production Management Committee, which deals with issues similar to what we're talking about here for all of the provinces in Canada, as well as animal care and many other issues.

Firstly, what I would like to do, is comment on behalf of Canada Egg Producers, and I believe you have a copy of our submission.

There is approximately 160 egg farmers in the Province of Manitoba. And we house approximately 2.2 million hens on an annual basis. The average farm size is 15,000 birds, which are roughly 120 animal units.
One of the things that's been very important to us as Manitoba Egg Producers, as an organization, is sustainable agriculture and strategic planning. Two of the key pillars of our strategic plan are environmental protection, as well as animal care.

And I should have mentioned also that we view this very much as a partnership not exclusive to egg producers. We view it as a partnership with other aspects of the industry, as well as various levels of government, because we feel that we don't necessarily have all of the answers. We are always looking for solutions, trying to be proactive. And we look for input and assistance from those other parties as well.

We are also strong supporters of the Recommended Code of Practice for laying hens and pullets, which was agreed to in 2003, and that deals with all aspects of animal care in terms of laying hens.

We also support the Livestock Manure and Mortalities Regulation and the current draft Nutrient Management Regulations under Water Stewardship. There is also a very positive comment that we would like to pass on to the
Provincial Government in terms of the process that was followed in developing these Nutrient Management Regulations. The process under the three or four ministers, as well as their staff, over about a year's time period, together with all of the commodity groups, we found to be very beneficial. I think we learned from each other. And the resulting proposed regulations were in support of them, and we think they are very positive for all of Manitoba.

Some of the things that we have done is we have tried to, again, as I said, be proactive with our producers, encouraging them to use the information that's available as they make decisions in their own operations.

We have produced a Manure Management for Laying Hens and Pullets brochure. We have hosted an Environmental Farm Plan Workshop, together with MAFRI, as well as PFRA. And we have another, proposed dates towards the end of April, again encouraging our producers to look at their own specific situation and look at ideas as to how they can be proactive into the future.

We have also significantly stepped up our manure management education initiatives, in
light of the new phosphorous limits, the Red River Valley spreading ban that has been proposed. And we are trying to keep our producers abreast of the situation so that they have time to think of the changes they may or may not need to make to meet those proposed guidelines.

We are holding a series of better management producer information meetings. Part of the reason we are doing this is we view manure as a very valuable food source for crop production within the province. We want to encourage producers to use that manure in the most beneficial way to produce crops, as well as to sustain the soil that they spread the manure on.

Many of our producers are recapitalizing or retooling their facilities as they become older. And one of the things that they are doing, again in response to changes that are happening initially. A good portion of our industry handled manure in the liquid form. And by far, almost 100 percent, I can't say 100 percent, but virtually all of the producers when they retooled, they went to a dryer manure system. It is much easier to handle. The odours that are present are much less with dry. It is
also a lot easier to spread on the land. And we encourage them to monitor that, to test the analysis of the manure, and to spread it in a sustainable way that meets the guidelines.

And, of course, as they retool, we also strongly encourage them to follow the Recommended Codes of Practice which were approved in 2003. That process was developed nationwide, with the input of Canadian Federation of Humane Societies, veterinary groups, consumer's associations, and many other stakeholders as well.

Some of the recommendations that we have, in terms of environmental sustainability, is that we feel that livestock is only part of the picture. In my own situation, I always thought that my main concern in terms of sustainability was the manure that my animals produce. Through this process over the past year, and the Phosphorus Committee recommendations in Winnipeg, I began to realize that the waste I and my family produce in my household is also an issue in terms of sewage discharge.

Another thing that is also an issue for all of us is residents, be it urban, rural, wherever we live, is a simple thing, the type of
soap we use in our dishwashers. All of those
things contribute to the Lake Winnipeg situation.

Winter spreading of municipal and
human city waste in the Red River Valley is
another thing.

And I think as Manitoba Egg Producers,
what we would like to do is look for solutions for
all of us in the Province of Manitoba. And we, as
egg producers, definitely want to take
responsibility for our portion of that and to find
solutions for the province as a whole.

Land use planning, which has been
talked about today, of course, is another thing
that we strongly support. Proper siting, proper
maintenance of buffer zones is also he very
important.

Manitoba is a unique province, and we
want to keep it that way. And I think many of the
solutions, or most of the solutions, will be made
in Manitoba, which uniquely fit our particular
province.

And, of course, it's been stated
before, but to have approved data and analysis so
that on a going-forward basis, we can base our
decisions on good data is always beneficial for
the province.

So unless there is questions, I will just continue. My own situation is somewhat unique in the sense that I think a lot of my thinking has been coloured by my experience as a director on various boards. I have also had some international experience in terms of trade discussions at the WTO, and had exposure to many different parts of the world. And I think that's really encouraged me and my family to try and translate how those messages from a global, to a Canadian, to a provincial perspective, how that fits on our particular farm.

Our farm is probably an interesting one in the sense that it's on the west perimeter. It is half a mile west of the Perimeter. When my parents start that had farm in 1946, there was no Perimeter. The city was a long ways away. You have all come close to our place to join us, and I think that's great, but we need to learn to live together.

One of the things that has happened, too, is I've never known a life without chickens. I think that's great. Other people might not, but I think that's fantastic. One of the things that
happened, which also encouraged my thinking, is many years ago, when I was a very small child, the City of Winnipeg, in terms of handling its own waste, built the Charleswood Lagoon on the west Perimeter. That lagoon is approximately two kilometers away from my farm. And I also mentioned the Perimeter Highway. This really challenged my thinking because what approach should we take? I could leave. I could protest. I could do whatever. We chose the opportunity to make a positive thing out of this and work for solutions on behalf of the whole province because, of course, we get the benefits of the City of Winnipeg.

We soil test, virtually on an annual basis, when we spread our manure to make sure that we don't spread manure more than what the annual uptake is of a crop. An aside to that is, I mentioned the Charleswood Lagoon, in the 60 some years that my family has been there, we have seen absolutely no evidence of any kind of leaching through the soil from the lagoon. We are, of course, in heavy clay soils. Not that it was a concern of ours. But the only change we have seen in our soil is things that we have done ourselves,
in terms of the crops we have grown with the
manure, etcetera.

We have always been in the laying hen
business. In 1990, we had the opportunity to
expand in the chicken broiler business. And, of
course, chicken broilers are grown inside on straw
bedding. And that added to our operation. A few
years later, in 1999, 2000, somewhere in there, we
had the opportunity to expand the broiler business
once again, which created a challenge for us.

Because as well as the things I have mentioned,
the community of Oak Bluff is growing
significantly. And our farm is located
approximately a mile north of the elementary
school in Oak Bluff.

Economic reasons, biosecurity, all of
those things, some succession discussions my wife
and I were having, as we have a son who is
interested in continuing with the farm, encouraged
us to look at alternatives. We are in the R.M. of
Macdonald. With the rules that were in place, we
probably could have constructed another facility
to house the expansion.

We chose another route, the reason
being we wanted to continue being good corporate
citizens, together with our neighbours. We did not want to cause any controversy. What we did was we took our laying hens, and we combined them together with several other producers and built a brand new facility at a community called Dufrost, which is east of Morris. Some of the things we have done with that facility at Dufrost, because it is over the 300 animal units, right from the very beginning we looked very closely at the siting. We made sure we were several miles away from the community at Dufrost. We also made sure that we were at least two miles east of the highest point of water from the '97 flood.

We also built a facility that has dry manure. We file an annual Manure Management Plan. We test our manure on an annual basis. We make sure we have more than enough acres from the surrounding neighbours to spread the land. We do soil tests on the land. We rotate the practice of spreading the manure. The land owners tell us it is a valuable source of natural fertilizer for them. And we don't have any problem finding enough acres and willing parties to take the manure.

In terms of our farm back at home,
strictly now we are completely broilers. And what
we do is we have completed our own Environmental
Farm Plan.

We are also certified with Manitoba
Chicken Producers and their On-Farm Food Safety
Program. Some of the things that that involves,
we try and follow very strict bio-security
procedures. I have also been involved in working
groups nationally in terms of traceability,
bio-security programs, after the avian influenza
situation in B.C. in 2004. We don't allow people
into the barn. For example, when feed trucks
deliver feed, they deliver the feed, but they do
not go inside the facility. We have signage at
the entrance to the farm, a visitor stop at the
road. They don't drive up to the barn. So those
are some of the things that we do.

In terms of the manure, we again
handle it according to the On-Farm Food Safety
Program. We have arrangements are neighbouring
lands owners. And overall it's been a very
positive process.

One thing I'll mention, just before I
close, is I have mentioned we are residents of the
R.M. of Macdonald. About four or five years ago I
served on a Macdonald-Richot Planning Working Group, where the councillors in those two municipalities put together a group of individuals. I represented livestock. We had town people. We had many various backgrounds to work on proper planning. And I think it was a very successful process because we looked at the municipalities in terms of where the streams and rivers were, where the towns were, where the major arteries were, and drew concentric circles for potential livestock production.

And I would say, specifically in the R.M. of Macdonald, it has worked extremely well. We have I think in the neighbourhood of six hog operations along the southern edge of the municipality. If you know your geography, it's the Village of Brunkild that is east of there, between there and Domain. There are very few residents around there. There is enough acres to spread the manure.

And the owners of those facilities, by and large, are local farmers who wanted to diversify their operations. They were grains and oilseeds farmers. And one of the families involved in those farms has brought two children
into the business by expanding through livestock. They are excellent corporate citizens, which covers the way they inject the manure.

The other thing that has happened, as a result of that, which is a sustainability factor in rural communities. And as a parent who has so far only exported one child to Alberta, hoping to reduce that to zero in the future, these hog facilities have provided a lot of employment for the young people in the local area. Some of them have taken up residence in the area. They have developed a passion for livestock. They have acquired residences in the area. We are a small area and a few jobs means a big deal. So from the human side of it, it has also been very sustainable.

So I think with that I will close my comments. If you have any questions, I look forward to answering them.

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

MR. MOTHERAL: Just one. I realize where your operations in Macdonald. Your combined operation in Dufrost, which R.M. is that in Morris or De Salaberry?
MR. FROESE: De Salaberry.

MR. YEE: Oh, just a quick question.

You mentioned you test your soils annually and you have filed a Manure Management Plan?

MR. FROESE: Yes.

MR. YEE: I was just going to ask, based on your notes, your average farm size is 15,000 hens which is roughly 120 animal units. I thought you didn't have to file a plan unless you were at 300?

MR. FROESE: No. I should clarify that. 15,000, that's the average size for Manitoba.

MR. YEE: Okay.

MR. FROESE: When we combined numerous families into one facility, we are significantly higher than the 15,000, so we are over the 300. So we voluntarily did it, but it is also a requirement as well.

MR. YEE: Okay, thank you.

THE CHAIRMAN: Thank you very much,

Mr. Froese.

MR. FROESE: Thank you.

Brandy Street, representing the Manitoba Livestock Manure Management Initiative Inc.
THE CHAIRMAN: Brandy Street. Miss Street, could you introduce yourself for the record, please?

MS. STREET: It's Brandy Street.

BRANDY STREET, having been sworn, presents as follows:

MS. STREET: Okay. Well, thank you very much for having me here. Again, my name is Brandy Street. And I am here representing the Manitoba Livestock Manure Management Initiative. So at the MLMMI, we've realized that livestock operations may or may not be contributors to nutrient in ground and water supplies. And because of this, the government has brought in regulations in place. And we currently have regulations in place and will continue to have regulations in the future.

However, our concern is we need science-based best management practices in order to enhance the environmental sustainability of the livestock industry and make for more fair and equitable regulations.

Our goal is:

"To allow Manitoba livestock industries to achieve their full
economic potential through sustainable growth."

And our mandate promises to do so by resolving issues in manure management, promoting sustainable manure management and developing best management practices.

And if you notice here, the key word seems to be "management", and that's because manure is not simply a waste product of the livestock industry. If managed properly, it can be a very valuable resource.

So in order to attack this issue, we plan on doing a few things at the MLMMI. Firstly, to continue to pioneer efforts to investigate solutions towards manure management issues from both a practical and a research angle.

Secondly, to build on the initiative's strong research base by implementing a multi-faceted scientific approach that focuses on practical, farm ready, and economically feasible projects, along with existing basic research. The key points here are that it has to be economically feasible and something that can be applied within Manitoba, or else it won't be adopted.

Thirdly, to create a communications
strategy that keeps the entire community informed of the Initiative's activities. And there are a few ways we plan on going about that. First off, we have done quite an overhaul of our website. I have done a lot of work myself, and have to say I am very proud of it.

We also plan on getting out newsletters in the near future, hopefully. Brochures are in the works, fact sheets. So I guess you have noticed that there are websites along the bottom of these slides.

And last of all, to broaden the Initiative's mandate by developing research priorities that apply to multiple livestock sectors and to promote the Initiative to these other livestock operations.

The issues aren't solely with one livestock sector. This has to be a team effort. A number or all of the livestock sectors have to get together as a team and be proactive in attacking these issues.

So what exactly are the main issues of concern? Well, first and foremost, phosphorus, as I'm sure you are all aware, has been in the news a lot lately, and we are putting regulations in
place. That is because there can be high input of phosphorus in the soils in areas of high livestock industry and in limited land base to sustain livestock farms. If we apply too much manure to the land, we can get leaching and run-off of phosphorus into our ground and surface water supplies which can, in turn, compromise water quality and compromise the health of the aquatic life and any life that depends on that water supply.

Manitoba, our government, has put in regulations restricting the level of soluble phosphorus in the soil, which means we have to restrict application rates of manure as well. So at the MLMMI, we have done or funded some research in the past in order to combat this problem. We have ongoing studies in phytase feeding. I am not sure if you are aware or not, but phytase is an enzyme you put into the feed. It sort of helps to more efficiently utilize the phosphorus that's in the feed so that the animal excretes less.

We have looked at the nature of phosphorus in manure. We have done literature reviews on the effects of phosphorus in the
environment. And currently we have projects funded towards phosphorus saturation -- looking at phosphorus saturation in Manitoba soils and a cost assessment of proposed phosphorus management regulations.

In the future, we would look at funding research into new technologies and practices that would reduce phosphorus loading in the soils, and that can be done in a number of ways.

First off, you could look at diet amendments and, again, processing. For example, different levels of processing of the feed that would enable an animal to more efficiently utilize the nutrients in the feed or adjusting nutrient levels to better meet the animal's requirements. Again, additives such as phytase or cellulase and phase feeding, which is basically supplying nutrients at a level to meet each stage of growth of an animal.

You could also look at -- or, sorry, look at manure management practices, alternating handling systems or treatment of the manure to reduce the levels of phosphorus. And improved application methods and timing of the manure on to
Nitrogen management is another issue sort of affecting the industry right now. The LMMMR has regulations that limit residual nitrogen levels to approximately 34-kilograms per hectare, and that's regardless of crop species, on class 5 soils. These soils are prone to leaching of nitrogen into water supplies just because they are so porous.

However, there has been recent research conducted that is saying that maybe these limits are actually too low. Maybe it's possible to apply more nitrogen to these soils without increasing the risk of leaching if the land is in a perennial forage system.

In the future, it would be a good idea, from our point of view, I think, to fund research that establishes loading rates of the nitrogen for sandy soils and looks at best management practices for annual and perennial cropping systems.

Another issue with nitrogen that I didn't really touch in on that previous slide was dealing with ammonia emissions. We have heard a little bit about that today. And we would also
look at funding research dealing with reducing these emissions that, again, could be done with diet amendments, different manure management practices. Barn cleanliness is one way of combatting this problem. Looking at different manure storage facilities or ways of storing manure. And technologies related to improved field application methods.

Currently we also have a study going on looking at best management practices to improve environmental sustainability and productivity of grassland systems using hog manure.

And the other issue of sort of the most concern right now, or I guess the third of high concern right now, is odour management. And we have heard a little bit about that here today already. It is a cause of very poor perception and acceptance of the livestock industry from nearby residents. And it seems that the hog industry sort of takes the brunt of the blow with this issue.

People tend to associate odours with maybe a concern of health and safety, aside from the fact that it is just a nuisance problem. So it is very important to address this issue just to
1 improve public perception and increase acceptance,
2 which would allow for expansion of the industry.
3 And maybe look at more research into improving the
4 industry as a whole so that people would be more
5 accepting of it.
6               To date, we have funded research
7 looking at odour emissions from hog operations, as
8 well as the negative air pressure technology for
9 controlling odour from manure storages.
10               In the future, technologies and
11 practices that would effectively reduce odours
12 would be, in our minds, good projects to look at
13 funding. And this can be done in a number of
14 ways. Best management practices for barn
15 cleanliness, again dirty animals or dirty
16 facilities can contribute greatly to odour in a
17 barn.
18               Improved manure handling or management
19 systems, so covers, slurry additives or just
20 different storage systems in general.
21               On-farm odour reduction strategies,
22 such as the building of shelter belts and
23 windbreaks. That would simply just filter the
24 odour upwards into the air, and that way
25 surrounding farms wouldn't smell as much of that
from the livestock operation.

And then improved manure application methods and timing. Again, it comes down to, for example, would you spread manure, broadcast spreading, like just spreading it on top of the land, or incorporating it into the soil. Incorporating it would reduce the odour and ammonia emissions. Or timing, for example, a hot sunny day compared to a cool cloudy day, where you would have a lot more odour on the hot sunny day.

So to recap, research aimed at reducing environmental risks to ground and surface water and soils. Reducing the risk of soil degradation. Reduction of odour and emissions. And production of valuable by-products such as energy, compost and fertilizer provide that odour or other undesirable emissions would be reduced would be funding priorities for the MLMMI. And it is important to point out that technologies that are economically feasible, likely to find application in Manitoba or likely to benefit Manitoba agriculture are key to us at the Initiative.

To date, we've heard 192 projects or applications for funding, of which we've funded 57
of them. Total funding is at about $4.4 million, of which the MLMMI has funded nearly $2.8 million. So the difference would come from the project performers themselves or from matching funds. And the type of projects have fertilizer value, odour abatement, water quality, infrastructure acquisition, to name a few. If you are interested in a little more detail on the projects themselves, you can always check out our website at manure.mb.ca.

So to conclude, since our incorporation in 1998, the MLMMI has worked towards fostering research to enhance the sustainability of the livestock sector. However, our concern, again, is with the existing and upcoming legislations and regulations that they just be based on good science. And earlier there was a question about, well, what makes good science? Again, that comes down to peer reviewed science. Is this something that your peers in the industry would accept as good practice?

So with the involvement in the research of the MLMMI, that would enable the CEC to take a proactive role and sustained leadership in addressing the research needs of the livestock
industry in regards to environmental stewardship.

And with that, I would like to thank you very much for your attention, being pretty much, I think, the last in the evening and open the floor for any questions.

THE CHAIRMAN: Thank you, Miss Street.

MR. MOTHERAL: Thank you. And I know we are going to hear more on this particular issue. I can't get my head around it yet. And it's to do with the phosphorus again. And I am almost ashamed to say that I have a degree in agriculture, although it was a number of years ago. There is a lot of things I still don't understand. Maybe I didn't then either.

But the whole business of, it came up again today, with there being allowed 800 pounds. And then, of course, I have heard it in parts per million and things like that of the residual phosphorus left and what's allowed. And I know that we need to get more information on what's available, what's soluble, what's residual. And I know it's too complicated for you probably to answer right now. But there is a need, I think, for our commissioner, and we have talked about this, we have to get this straight in our heads.
And I see Dr. Braggs there probably wondering did I ever learn anything in university?

I know that it's -- I haven't got it straight in my mind yet. You know, I know that plants require so much P2O5, and they will use that up. But is there going to be some in there that's not available. Somebody today said they were up to 800-pound. Isn't that what was quoted, 800-pounds? And I need some conversion factors and what's available and what's not.

MS. STREET: Well, that I would definitely have to get back to you on.

MR. MOTHERAL: Okay.

MS. STREET: But I will do that.

MR. YEE: Maybe a couple of questions. One is a follow-up to what Wayne had just asked. It was mentioned earlier on, I think it was earlier on this afternoon. We understand the nutrient budgeting and that there is -- you look at the amount of nutrients in the feed and you can do a mass balance in terms of what's fed to the animals and what comes out. But my understanding in discussions with Manitoba Conservation is that there are better methodologies of calculating loading to land and areas to better manage the
phosphorus and the nitrogen in the soils. That's a project that might be worthwhile for your group to undertake. I am just looking at your research initiatives, so maybe just a comment on that.

And the other thought I had was, and I noticed you're creating a community communications strategy. And you mentioned newsletters and brochures. I am just wondering, does that include your research projects in terms of sort of summaries of your findings and information that's coming out your research projects?

MS. STREET: Well, all of the results of the research proposals, or of the research projects, the final reports and a summary are provided on the website, so you can find that information there. The newsletters would contain probably a summary on the most recently completed, and would probably come on a quarter or an annual basis. So it wouldn't necessarily include them all, depending on how many, you know, have been completed, but yes.

MR. YEE: Thank you.

THE CHAIRMAN: Thank you very much, Miss Street. Is there anybody else who wishes to make a presentation this evening? Seeing none, I
thank you all for coming out this afternoon and this evening. We will reconvene tomorrow afternoon in Stonewall at the Legion at 1:00. Thank you and good night.

(PROCEEDINGS ADJOURNED AT 8:21 P.M.)
CERTIFICATE

Lisa Reid and Debra Kot, Court reporters, in the Province of Manitoba, do hereby certify the foregoing 265 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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LISA REID

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DEBRA KOT