

MANITOBA CLEAN ENVIRONMENT COMMISSION

HOG PRODUCTION INDUSTRY REVIEW

TRANSCRIPT OF PROCEEDINGS

* * * * *

Held at the Friedensfeld Community Centre

Friedensfeld, Manitoba

THURSDAY, APRIL 12, 2007

* * * * *

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:	PAGE
Adrien Grenier	1461
Ray Plett	1473
Rick Peters	1491
Karen Friesen	1501
Ab Frieg	1517
Mary Jane Hiebert	1533
Eric Gregory and Walter Enns	1537
Denis Vielfaivre and Sheldon Stott	1549
Mike Hazzledyne	1590
Lyle Peters	1603

INDEX OF EXHIBITS

NO EXHIBITS MARKED

1 Thursday, April 12, 2007

2 Upon commencing at 9:05 a.m.

3 THE CHAIRMAN: Good morning ladies and
4 gentlemen. Could I ask you to take your seats and
5 we'll reconvene our hearing? We have a full
6 agenda for this morning so I'd like to get going.

7 First on the agenda for this morning
8 is Adrien Grenier. Would you introduce yourself
9 for the record, please?

10 MR. GRENIER: Adrien Grenier.

11 ADRIEN GRENIER, first being sworn, presented as
12 follows:

13 THE CHAIRMAN: Go ahead, sir.

14 MR. GRENIER: I looked at the agenda
15 and it says Adrien Grenier, SPADA. It's not my
16 intention to talk in the name of SPADA, because we
17 asked for funding from SPADA and we were flatly
18 denied. SPADA is a farm organization that I
19 believe you could have funded it. But, as you are
20 well aware, the Pork Council has already provided
21 CEC with a multitude of very pertinent data
22 regarding the hog industry in Manitoba. Rather
23 than repeat the same information, I won't go into
24 that because the industry is doing it, but instead
25 I will present my views as a hog producer.

1 I operate a family farm of 600 animal
2 units on 800 acres of land. This is a moderate
3 operation. It represents my way of life, but
4 foremost it's my source of income, and as such
5 must be sufficient to meet my family needs and
6 hopefully I'll have some left over so I can
7 retire. Basically, this is what puts the Corn
8 Flakes on the table.

9 As a hog producer, I am responsible
10 for operating under the guidelines of: The
11 Planning Act, the Water Rights Act, the Water
12 Protection Act, Pesticides and Fertilizers Control
13 Act, Farm Practices Protection Board Act,
14 Livestock Manure Mortalities Management
15 Regulations, including phosphorus, Animal Disease
16 Act, Provincial Technical Review Report and
17 Municipal Intensive Livestock By-laws.

18 Here is a list of things I am doing
19 right now. I have an engineered design structure
20 for the barn, approved by the province. We have
21 an engineered design and structure of the manure
22 storage, approved by the province. Obtained a
23 water rights licence from the province. Water is
24 tested regularly, eight test wells on site,
25 results are monitored by the province. Water

1 consumption data is recorded regularly, data is
2 provided regularly to the province. Proper
3 drainage in order to control run-off and stagnant
4 waters. Regular soil tests, results are monitored
5 by the province. Regular manure sampling, manure
6 applications using GPS, annual manure management
7 plan is filed with the province. Crop rotation to
8 match available nutrients to best suited crops.
9 Shelter belts to help with wind erosion as well as
10 odour control. Livestock disposal, dead stock is
11 disposed of quickly as possible through come
12 posting and we ensure proper distances.

13 At the municipal level, I have
14 obtained a building permit, and conditions of this
15 permit, I have adhered to all provincial laws and
16 regulations, adhered to municipal intensive
17 livestock by-laws, complied with recommendations
18 of technical review report concerning engineer and
19 design, land use planning, manure management.
20 Complied with the provisions of the Water Rights
21 Act and obtained appropriate licences. Installed
22 an approved synthetic liner in the manure storage
23 facility. Ensured that the construction was done
24 within the two year period set out by council.
25 Installed a cover on our manure storage facility.

1 At the industry level, I have kept in
2 good standing with the respect to the CQA,
3 monitored by the hog industry to maintain quality
4 and consistency. It's always been my intent to
5 remain a good neighbour.

6 Since I first applied for construction
7 of a hog barn, I have had to jump through many
8 hoops. Let me explain. Just putting the finances
9 in a project like this is hard enough. Applied to
10 the municipality for building permit. My
11 application was refused without explanation. A
12 new application to the municipality for the
13 building permit, refused a second time without
14 explanation. Having been refused twice, I took
15 the matter to court where it was dealt with by the
16 Court of Queen's Bench, public documents. Court
17 documents show that the municipality acted in bad
18 faith. The municipality was ordered by the courts
19 to look at my application. Technical review
20 received by the municipality. Municipality held
21 public hearings. Further conditions were attached
22 to the permit.

23 Although I met all the conditions of
24 the permit, council still voted 3-2 in favour of
25 the project. The whole project was nearly

1 defeated.

2 Applied to different provincial
3 departments for necessary licences, much back and
4 forth as the licence is pending the permit, the
5 permit is pending the licence. This process was
6 very lengthy and resulted in loss of income and
7 increase in costs, time of setting up an
8 operation. The first application was filed
9 January 9, 2001. Permit was finally issued on
10 September 28, 2004 after construction season.

11 When my ancestors first settled in the
12 area more than a hundred years ago, government
13 sent them off to find their homestead on land that
14 had not yet been surveyed. They would become
15 landowners should they open a certain amount of
16 acres within a specified time limit. Logically,
17 they settled in close proximity to a creek in
18 order that they may have access to water source
19 for themselves and their livestock. This was done
20 successfully with the knowledge and resources that
21 were available to them.

22 Switch over to 2007. Knowledge and
23 technology has changed. We now measure in parts
24 per billion. Every aspect of farming is monitored
25 to the nth degree, but we all know that overall

1 the hog industry has a good track record. The
2 producers have shown to be responsible and have
3 always cooperated with all levels of government in
4 order to ensure a quality and a consistent
5 product.

6 The hog industry takes its role
7 seriously and monitors its producers on a regular
8 basis. Manitoba Pork Council has taken part in
9 studies and has many check points set up to ensure
10 that producers stay within the industry
11 guidelines. The province has also set up to
12 monitor what is going on at farm level. Without a
13 doubt, the hog industry is the most scrutinized of
14 all industries in the province.

15 As a hog producer in the Province of
16 Manitoba, my recommendations to CEC are as
17 follows: Remove the moratorium on the expansion
18 of the hog industry immediately. The moratorium
19 is unfair. It prevents opportunity to producers
20 to expand. It hurts farming by preventing
21 operations from carrying on normal business.
22 Supporting industries are losing out as well. The
23 industry is working very hard to protect the
24 environment.

25 The province and not the producer

1 should be responsible for costs incurred in
2 supplying data. For example, water sampling, test
3 wells, manure sampling, soil testing.

4 By enforcing a moratorium on the hog
5 industry, the province has misled the public into
6 thinking that this specific industry has done
7 terrible things. When the hog industry is
8 exonerated from all wrongdoings, the province
9 should spend time, energy and resources to
10 rebuilding the trust of the consumer regarding
11 this industry.

12 Thank you.

13 THE CHAIRMAN: Thank you, Mr. Grenier.
14 What municipality is your farm in?

15 MR. GRENIER: RM of Piney.

16 THE CHAIRMAN: And you note here that
17 on two occasions your application was refused.
18 There was no explanation at all?

19 MR. GRENIER: No.

20 THE CHAIRMAN: They just said no.
21 Were you involved in any kind of process leading
22 up to it? Do you have any sense why they turned
23 it down?

24 MR. GRENIER: They just didn't want me
25 there. Well, you could have asked them.

1 THE CHAIRMAN: No, okay, that's fair
2 enough. Now, in your written thing it says
3 800 acres. Did you say 1,800?

4 MR. GRENIER: I said 800, I'm sorry if
5 I mislead you there.

6 THE CHAIRMAN: No, no, it's not a
7 misleading, I just misheard.

8 Edwin, any questions for Mr. Grenier?

9 MR. YEE: Yes. Mr. Grenier, on that
10 800 acres, is that sufficient land to spread all
11 of your manure or do you need additional land?

12 MR. GRENIER: No, I don't need
13 additional land. We need to buy about \$25,000 of
14 fertilizer yet.

15 MR. YEE: So you're putting, in
16 addition to the manure, synthetic fertilizers,
17 chemicals?

18 MR. GRENIER: Right.

19 MR. YEE: In terms of application, you
20 mentioned using GPS. Is that application done by
21 injection?

22 MR. GRENIER: No, it's done with
23 tankers at the moment because that's all we can
24 afford.

25 MR. YEE: Can you explain?

1 MR. GRENIER: The difference?

2 MR. YEE: Yes?

3 MR. GRENIER: Well, the capital
4 investment for the line pumps is fairly expensive,
5 and then they just sit there. While the tanker is
6 about 50,000, you buy a used one for 15, and you
7 can rent a pump. The rest of the stuff is pretty
8 hard to rent, and then it would just sit there.
9 Line is 50,000, a half mile, and you're still a
10 mile away to the furthest piece of land and you
11 still need to go everywhere.

12 MR. YEE: Have you had any complaints
13 about odours?

14 MR. GRENIER: Before the barn was
15 built, yes.

16 MR. YEE: In terms of, you mentioned
17 your manure storage, what type of facility is your
18 manure storage?

19 MR. GRENIER: It's a two cell lagoon,
20 a two cell structure.

21 MR. YEE: And you indicated you
22 installed a cover. Is that synthetic cover?

23 MR. GRENIER: The municipality
24 specified it had to be the latest design in odour
25 control, whatever would cost the most.

1 MR. YEE: So I take it that is a
2 synthetic type of cover, not a straw?

3 MR. GRENIER: Right.

4 MR. YEE: Thank you.

5 THE CHAIRMAN: Do you incorporate your
6 manure right away?

7 MR. GRENIER: It's done within 24
8 hours. Depending if we have a tractor available,
9 we'd like to be cultivating right behind the
10 tanker, but usually there's manpower available, it
11 is your same guys driving your tankers, you run,
12 most of the guys we try and run 16 hours. They've
13 got to get some sleep.

14 THE CHAIRMAN: Yeah.

15 MR. GRENIER: And you're going to be
16 running three days, four days. So most of the
17 guys, by that time, if we have a spare tractor,
18 then one of the guys will start spreading, I mean
19 cultivating.

20 THE CHAIRMAN: Thank you. Wayne.

21 MR. MOTHERAL: Thank you. Most of my
22 questions are answered. I'm going to ask you, on
23 your application with the municipality and you
24 were refused twice, and you said you went to court
25 and then you did get it by a 3-2 vote. Do you

1 think the municipality should have the final say
2 in whether or not your application is okayed? I
3 mean, they do have the final say right now and
4 they do not have to explain why. I'm not saying I
5 agree with that, but that's the way it is right
6 now. And do you think that maybe the province
7 should have the final say or the municipality
8 should have the final say?

9 MR. GRENIER: If you meet all the
10 regulations, it seems to me pretty simple, either
11 you get it or you don't. And if you've met all
12 the regulations, what's -- it's just like applying
13 for a building permit for a house. We treat the
14 guys building houses the same way. It would be
15 tough to get a permit four years after every
16 application.

17 MR. MOTHERAL: I'll ask another way.
18 Do you think municipalities should be more
19 consistent in their by-laws?

20 MR. GRENIER: I certainly would love
21 to be treated the same way as any other farming
22 activity.

23 MR. MOTHERAL: Because I know we have
24 been travelling the province, there are some
25 municipalities who just don't want hogs, and they

1 have put restrictions on almost that prevents
2 them. They have the -- they can do that. It's a
3 way of, it's a matter of fact. So you don't have
4 to agree with it but that is the way it is.

5 MR. GRENIER: Oh, I certainly don't.

6 MR. MOTHERAL: I know, I can tell
7 that.

8 MR. GRENIER: Pretty soon they might
9 just say, we don't want any elderly persons
10 because they are costly to our municipality.

11 THE CHAIRMAN: I think they are
12 protected by the constitution, although pigs
13 aren't.

14 MR. GRENIER: I see that. There are
15 13 signs in our municipality for me to get out.

16 THE CHAIRMAN: You specifically?

17 MR. GRENIER: It says hog producer.

18 MR. MOTHERAL: Your last statement in
19 your presentation into rebuilding the trust to the
20 consumer regarding this industry, and we're
21 certainly hearing that, so we're just trying to
22 find ways that that can be done.

23 MR. GRENIER: Once the damage is done,
24 it's pretty hard to get everything to come back.

25 MR. MOTHERAL: Thank you.

1 THE CHAIRMAN: Mr. Grenier, just on a
2 final note, in respect of your SPADA application,
3 I did speak with your partner, or one of the other
4 people from SPADA in Emerson, and we talked about
5 it, and your application was considerably in
6 excess of the maximum that we were allowing. And
7 I invited him to submit another application for a
8 smaller amount, but we never got anything.

9 MR. GRENIER: But that's what it cost
10 to do these things.

11 THE CHAIRMAN: Well, unfortunately, we
12 weren't able to give that amount of money. Thank
13 you very much for your presentation here this
14 morning, sir.

15 MR. GRENIER: Thank you.

16 THE CHAIRMAN: Ray Plett.

17 MR. PLETT: Good morning.

18 THE CHAIRMAN: Please introduce
19 yourself for the record?

20 MR. PLETT: My name is Ray Plett.

21 RAY PLETT, having first been sworn, presented as
22 follows:

23 THE CHAIRMAN: Go ahead, sir.

24 MR. PLETT: I am involved in two
25 operations, one being a laying hen operation and

1 one hogs. I am not very directly involved with
2 the hogs, more so with the layers and the land
3 operations. So my ramblings here will be somewhat
4 back and forth from laying hens to hogs. So if
5 you have any trouble following which one I'm
6 farming at that particular point, raise your hand,
7 I'll try to explain what I'm doing.

8 In addition to telling about what we
9 do on our farm, or how we operate, I have entitled
10 my speech and I have broken it down into two
11 parts. The first one is "my passion," which maybe
12 isn't a very apropos name so close to Christmas --
13 I mean so close to Easter, but I am very
14 passionate about farming and I think it will show
15 in my presentation here.

16 The slogan the Manitoba Egg Producers
17 have adopted is "We love what we do." This
18 describes my feeling precisely. I enjoy trying to
19 achieve optimum production from my laying hens
20 because I know that, like human beings, chickens
21 produce best when their needs are met and they are
22 content. This requires close attention to things
23 like adequate clean water, high quality and
24 nutritious feed, clean fresh air, physical health
25 and safety. If their production is at the

1 optimum, all outward manifestations are normal,
2 and my in-barn alarm systems are functional, I am
3 content.

4 In the grain sector, my interests are
5 just as intense. I enjoy trying new crops,
6 varieties, seeding rates, fertilizer rates, crop
7 rotations and so on. Making a living at what I do
8 is, of course, a major reason for doing what I do,
9 but my wife often accuses me of just farming for
10 the enjoyment of it.

11 I grew up on a small farm, left the
12 farm to train as an automotive mechanic, worked at
13 repairing vehicles, taught power mechanics for
14 three years, but came back to the farm.

15 I have also always taken pride in the
16 fact that I could do what I enjoyed doing while
17 helping to feed hungry people, supplying them with
18 healthy, affordable food, especially after seeing
19 millions of starving people during a three-year
20 term of relief service in India and Pakistan.
21 Food is one of the most basic needs a person has,
22 second only to water and hockey -- sorry, water
23 and air. I have always taken for granted that
24 what farmers risk large amounts of money doing and
25 spend a lot of long hours at would naturally be

1 appreciated by those who work at other jobs. I am
2 afraid that in recent years, I have come to
3 realize things have changed, or else I have been
4 very naive all my life. Never would I have
5 imagined that so many people would find so many
6 ways to prevent us from supplying them with
7 affordable healthy food.

8 I am very grateful indeed for the CEC
9 meetings -- that the CEC meetings are giving
10 farmers through meetings like this, an opportunity
11 to tell the public about the activities,
12 difficulties and successes encountered in
13 achieving their goals, in a world where rules and
14 regulations take up an incredible amount of time
15 and are difficult, at times impossible to comply
16 with. To interact with producers with regards to
17 things that could be implemented on the farm to
18 improve relationships with neighbours, introduce
19 methods and regulations that would be friendlier
20 to the environment and their animals seems to me
21 to be a huge step forward.

22 Just recently I completed a
23 face-to-face farm survey that took two hours to
24 complete and that I hope will never be used in any
25 farm regulation development. Because even the

1 individual doing the interview shook his head at
2 the absolute irrelevance at most of the questions.
3 It must have been developed in an office high
4 above the City of Ottawa where there is never a
5 smell of chicken manure.

6 I feel that farm regulations need to
7 always be constructed to allow for the unforeseen
8 problems that often accompany our work. There are
9 many things that happen on the farm that are
10 entirely out of the control of the operator of the
11 farm. And regulations that are ironclad may cause
12 serious problems at times.

13 I can live with regulations that have
14 been constructed through dialogue with all
15 concerned groups having opportunity for input.
16 When regulations are written without a good
17 understanding of farm procedures and practices,
18 frustration and non-compliance are the result.

19 I believe that meetings like this are
20 organized to address particular concerns
21 identified by individuals and organizations that
22 have a desire to assure that food is produced in a
23 responsible and sustainable manner. There are
24 many groups that are of major concern to me with
25 regards especially to the production of food.

1 Forty years ago, when I was in India for a
2 three-year term of service on a food for work
3 project, there was a lot more hunger and
4 starvation than now. And in this horrible
5 situation, I remember hearing there was enough
6 food in the world to feed its population if only
7 there was proper distribution of the food, but
8 that in 20 years there would not be enough food
9 even with proper distribution.

10 Now almost 40 years later, I believe
11 the same still holds true. There is still enough
12 food to go around, and except for disproportionate
13 distribution, there would be enough for all. What
14 has happened? Why is there still enough food to
15 go around? A concerted effort by plant breeders
16 who have come up with higher yielding cultivars,
17 scientists developing more efficacious chemicals,
18 equipment capable of getting more work done, and
19 farmers adapting new methods to enhance production
20 is what has happened. I believe that farmers need
21 to do whatever possible to protect this important
22 progress. This must be done with careful
23 consideration for the health and welfare of
24 humans, animals and environment. In my opinion,
25 there are too many individuals and organizations

1 that take a much too narrow single faceted
2 approach to food production. These views are
3 often propagated from a position of very little,
4 if any, information, and withholding of important
5 information, and through half truths and deceit.

6 A piece in a recent Manitoba
7 Cooperator had me seething at first, then I had a
8 feeling of incredulity, and finally mirth. Its
9 title was, "City Dweller Drives Quit Stalling
10 Campaign." When I have a problem with my teeth, I
11 go to the dentist, not the plumber. When the
12 plumbing is leaking, I don't go to the dentist,
13 but to the plumber. So how come we would listen
14 to a city dweller when the topic of discussion is
15 farm animals? I quote:

16 "King herself has never visited an
17 intensive livestock operation. She
18 says, I've driven by one and that's
19 pretty shocking. It could have been
20 in Winnipeg."

21 Can you become a banker by driving past a bank?
22 She lives in a fancy apartment and doesn't even
23 have an animal with her. She goes on,

24 "It's certainly not my idea of a farm.
25 I do have a concern that some of these

1 huge hog farms are putting small
2 farmers right out of business."
3 She seems to think that farmers can still make a
4 living on a few pigs and a couple of chickens. If
5 you have been to Mexico or Cuba, you will have
6 seen many farms with a few chickens and couple of
7 hogs, and you have observed the living conditions
8 these farmers find themselves in. In Canada, if
9 allowed to farm in a fashion that will sustain an
10 average lifestyle today, we need to farm in a much
11 different manner that we did when I was a boy. Is
12 our farm a factory farm or is it just larger?
13 Quoting Ms. King,
14 "I work for a huge company and
15 understand business and I wish
16 everybody would make a good living at
17 all times."
18 I agree that small farms are a thing of the past
19 and that larger farms have bought them out, but
20 how did the firm she works for get so large? Were
21 there not smaller businesses that had to sell out
22 to this larger one? How is that so different?
23 To nobody is animal welfare as
24 important as to farmers whose livelihood is
25 dependent on the well-being of their animals. Are

1 our chickens living in such deplorable conditions
2 today? Do our city friends know why we now prefer
3 to produce eggs with our hens in cages? Let me
4 enumerate a few reasons, and there are others. In
5 my boyhood, our chickens on the floor were often
6 infested with chicken lice that bred by the
7 millions on the chickens, the roost, litter, and
8 wherever. Insecticides were needed to deal with
9 this problem. Coccidiosis was a constant threat
10 and medication was used in an attempt to keep the
11 birds healthy. Often the chickens were beset with
12 internal pests as well.

13 Two weeks ago I had a chat with a
14 professor in the Faculty of Agriculture at the
15 University of Manitoba. He told me about some of
16 the findings in a recent experiment. When
17 dissecting some birds, half floor and half cage
18 raised, he found the caged chickens' intestines
19 clean, while the floor ones were infested with
20 worms.

21 Just one more example on this topic of
22 keeping birds in cages versus on the floor. MEP
23 has a set of cages just like you would find in
24 most laying hen barns today, and these are taken
25 to several shows around Manitoba throughout the

1 year to try to educate the public on the ways of
2 the modern farm. At the Brandon Winter Fair, I
3 was manning the booth and a young woman came by.
4 She stood at a distance with a look of disgust on
5 her face, and I thought oh, oh, here we go. But I
6 screwed up my courage and stepped over to her and
7 asked her opinion on what she observed. She said
8 what she saw was disgusting and that she raised
9 her chickens free range. I asked how many
10 chickens she had, and she replied now she had only
11 one. I was getting more curious and made bold to
12 ask why she now had only one? She answered
13 somewhat embarrassed that a fox had killed the
14 rest.

15 The layers on our farm drink regularly
16 tested water, eat feed that is very carefully
17 formulated for correct proteins, vitamins and
18 trace elements. Rarely does a human being receive
19 such carefully controlled nutrition. Very rarely
20 is any medication required. The air intake and
21 distribution is carefully regulated by computer
22 controlled fans, air inlets and distribution
23 ducts. Dust and manure are regularly removed and
24 there are no flies, lice or eye blinding ammonia
25 around. Cage space, feed trough space, drinking

1 nipple numbers are all made according to the
2 latest scientific knowledge. Would you want to
3 live in a cage is the most frequently asked
4 question? My answer is no, but I am not a
5 chicken.

6 Just one more quotation:

7 "They are living, breathing animals.
8 They feel, they have the same nervous
9 system as you and I. I'm sure they
10 literally go insane in those sow
11 stalls."

12 Now we're back to sows. Conspicuously absent,
13 and rightly so from this statement, is that they
14 don't have the same brain. If they don't have the
15 same brain, how can we know how they feel about
16 things other than non verbal communication through
17 outward manifestations? When mortality and
18 sickness are negligible and production is
19 considerably higher than floor birds achieve, one
20 can assume that things are well. Chickens will,
21 however, audibly tell their caregivers if
22 something is wrong. Someone with experience with
23 domestic fowl can tell, especially after lights
24 out, whether all is well or not.

25 A fellow egg producer told me of a

1 situation on his farm where he had been gone for a
2 couple of days, and coming home, walked into the
3 barn and noticed immediately that there was
4 something amiss. The sound of the flock alerted
5 him. One row of birds was without feed. They had
6 not received their feed that day because of a
7 feeder breakdown. Another notice of mistreatment
8 came over the course of the next two weeks in the
9 form of production slump.

10 If on the other hand we assume that
11 hens don't want to be in cages and hogs don't want
12 to be in stalls because humans don't, how do we
13 account for the Winnipeg Humane Society promoting
14 the spaying and neutering of cats and dogs? Don't
15 you think we ought to have another display, beside
16 the crated hog that is taken to the malls and
17 various protestation sites, with a sad looking
18 puppy with a small box at his side displaying his
19 testicles?

20 I want to end with a humorous little
21 story that was told at the KAP annual meeting.
22 David Rolff, the president told it. Two men, a
23 father and son, were going down the road. The
24 father was riding a donkey, and they came upon
25 some people on the road and the people were

1 appalled that the father was riding and his son
2 had to walk. They wondered why wasn't the son
3 riding and the father walking. And they looked at
4 the situation and said, well, yeah that makes
5 sense, so they traded places. The son was riding
6 and the father was walking, and they came upon
7 some more people, and these people said what's the
8 matter with you, the old father has to walk and
9 the son is riding, it's ridiculous. They
10 considered and felt, yeah, that's probably the
11 case. So they both got onto the donkey and road
12 on and met some more people, and these people were
13 totally incredulous. They said, this is
14 ridiculous, you have a little beast and two people
15 riding on it, what's the matter with you? They
16 were quickly running out of options but they had
17 one left, so they decided that had they would tie
18 the front legs and the back legs of the donkey
19 together. They found a pole, they stuck it
20 through the donkey's legs and carried the donkey
21 that way, suspended on this pole. They came to a
22 river full of water. And as they were crossing
23 the bridge, the pole slipped, the donkey fell into
24 the water and drowned. Now, the moral of the
25 story is, that if you listen to everybody and want

1 to do what everybody tells you to do, you might as
2 well kiss your ass good-bye.

3 THE CHAIRMAN: Thank you very much.

4 MR. PLETT: Have I used up my time?

5 THE CHAIRMAN: Pretty near, yes. Give
6 us a couple of moments, we might have some
7 questions. Edwin?

8 MR. YEE: I guess the only question I
9 would have for you, Mr. Plett, is whereabouts are
10 you located, in which municipality?

11 MR. PLETT: We live close to the Town
12 of Landmark. The poultry farm is close to
13 Landmark in the municipality of Tache. We have
14 hog barns three sites in Tache and one in Ste.
15 Anne.

16 MR. YEE: I didn't have a chance to
17 read your second part of the presentation, but I
18 noticed you mentioned some facts in terms of the
19 number of layers you have. But how large is your
20 hog operation?

21 MR. PLETT: We have 600 sows that are
22 close to the layer operation, and also close to
23 there we have 1,500 feeders. Then we have, in the
24 municipality of Ste. Anne we have 4,000 feeders.
25 And actually in Hanover we have 600 sows.

1 MR. YEE: And in terms of your manure
2 management, do you manage both the chicken and the
3 hog manure together, or are they done separately?
4 Do you apply them to crop lands?

5 MR. PLETT: It's all applied to crop
6 land, not necessarily all to ours, depending on
7 whether ours shows that it can handle manure. But
8 we try as much as possible to use it on our own,
9 on our own land.

10 MR. YEE: Is there much transportation
11 requirement in regards to --

12 MR. PLETT: Yes, there is. In my
13 second article, I talk about the fact that we
14 wanted to build that first sow barn close to the
15 municipal town lagoon, the Landmark one. And
16 because of some neighbours being concerned about
17 smell, we weren't allowed to build there, so we
18 built close to our layer operation, which then of
19 course compelled us to haul the manure or pump it
20 further, so we have to pump quite a distance. The
21 rest of it is, the rest of the barns are located
22 in a better way.

23 We have gone to dry manure for our
24 laying hens, so we can load that onto a truck with
25 a silage end gate and haul it a greater distance

1 to fields further away, and then we spread it
2 there, dump it on the field and reload it and
3 spread it. The pullet operation has a pit with
4 liquid manure, but that too we can haul it a
5 greater distance so we have made room for the --
6 but that was a definite impediment for us. We
7 wanted to build the first hog barn close to the
8 lagoon where we had a good piece of land, but
9 things being as they are, people didn't allow
10 that.

11 I would also like to add to that
12 little story that we weren't allowed to build our
13 hog barn there. They have their town lagoon right
14 on the banks of the Seine River diversion, which
15 of course is handy, they can pull the plug when
16 it's what they call neutralized I think is the
17 word they use. So that's -- but we weren't, we
18 couldn't build it. We thought that land was
19 already initiated to smell so that would be a good
20 place. That didn't work out.

21 As we speak, they are, the
22 municipality is -- as a matter of fact, I'm
23 meeting with council I think tomorrow, they want
24 to buy a further piece of land to expand the
25 Landmark lagoon. They have purchased from us

1 because that's where they did the previous times,
2 two times. They want to build the lagoon west of
3 the old one, which we would prefer if they built
4 to the south, but they want it on the west so that
5 they can be right close to the river again, right
6 on the banks of the diversion, for obvious
7 reasons. And to me that is mind boggling. That
8 little diversion of ours there I think collects
9 human waste from, somebody said nine towns. And I
10 only come up with eight, but in any case, many
11 towns. And that effluent is dumped into that
12 diversion and ends up in the Red River. That is
13 neutralized, according to them, before the plug is
14 pulled, which I don't know what that means. Do
15 phosphates, for instance, leave? Phosphates
16 aren't poison, so I think they can call that
17 neutralized just simply because it's not harmful
18 to the environment really, other than I guess the
19 lakes and such, which is serious enough. But if
20 there is phosphate in there, then they are major
21 contributors to the problems we are having. If
22 there isn't phosphate in there, then why is the
23 phosphate still there in hog manure when it's
24 applied?

25 So now I've really used up my time?

1 Any other questions?

2 THE CHAIRMAN: Wayne?

3 MR. MOTHERAL: Which municipality is
4 that, Landmark?

5 MR. PLETT: Tache.

6 MR. MOTHERAL: When you haul your
7 chicken manure out to the fields with trucks and
8 pile it, is it composted at all? How long before
9 you spread it?

10 MR. PLETT: Well, we try to, as much
11 as possible, spread it after the crop is off. So
12 it would be spread in fall, and then probably
13 early spring we would have to haul some out again,
14 and some during the summer, because we don't have
15 summer fallow anymore, and then after the crop is
16 off. But if you have a really wet year and you
17 can't do anything, then it might be there for
18 longer than that.

19 MR. MOTHERAL: I am just wondering,
20 are there any conditions at all set where you pile
21 that manure in the fields, or you have your own
22 choice? Like normally you see it in a long row.

23 MR. PLETT: That would be more -- we
24 don't have that amount of manure anyway --

25 MR. MOTHERAL: Oh, I see. Okay.

1 MR. PLETT: -- like from layers.

2 Well, there are the regulations that keep us from
3 being close to waterways, and we are supposed to
4 have a berm around to keep it from running in case
5 of rain.

6 MR. MOTHERAL: That's all I've got.

7 Thank you.

8 THE CHAIRMAN: Thank you very much.

9 Mr. Plett.

10 Rick Peters. State your name for the
11 record, please, sir.

12 MR. PETERS: Rick Peters.

13 RICK PETERS, being first sworn, presented as
14 follows:

15 THE CHAIRMAN: Go ahead, sir.

16 MR. PETERS: Good morning ladies and
17 gentlemen, panel members. It is a privilege to
18 present on behalf of Steve's Livestock Transport
19 here this morning. Since its inception 20 years
20 ago, we at Steve's Livestock Transport endeavour
21 to make innovation and excellence our top
22 priority. Our commitment is to provide safe and
23 humane transportation of livestock in a biosecure
24 environment for all of our customers.

25 The company has grown from one young

1 entrepreneur to now employing close to 300 people
2 at three locations. We attribute this tremendous
3 growth to the development of the hog industry as a
4 whole. An estimated 98 per cent of our business
5 is directly related to the hog industry.

6 Our company has become a leader in the
7 industry by working together with government
8 agencies to initiate positive change. These
9 include initiatives such as the Trucker Quality
10 Assurance Training Program, as set out by the U.S.
11 National Pork Producers Council. This program
12 trains all drivers in safe and humane livestock
13 handling techniques. We have also worked very
14 closely with the Canadian Food Inspection Agency
15 in developing acceptable trailer stocking
16 densities. These today are used nationwide to
17 ensure comfortable and humane conditions for
18 livestock during transport.

19 Not only is Steve's Livestock
20 Transport the largest commercial hog
21 transportation company in North America, we have
22 also diversified to provide other economic
23 spin-offs in Manitoba. These include truck and
24 trailer wash facilities which are located in
25 Blumenort, Manitoba and Brandon, Manitoba, as well

1 as truck and trailer maintenance facilities at our
2 primary location in Blumenort. Our wash locations
3 employ close to 100 people and jointly wash 1,500
4 livestock trailers every month. We have a full
5 service truck and trailer maintenance shop located
6 in Blumenort which employs 10 people, including
7 the office staff as well as mechanics and welders.
8 Additionally, we employ approximately 200 drivers,
9 owner/operators and office administration staff.

10 Steve's Livestock Transport is
11 continuously adapting to meet the ever changing
12 demands and requirements of the hog industry. We
13 pride ourselves on having the highest biosecurity
14 standards in the industry.

15 Our trailers undergo a hot water wash
16 process prior to each new load of hogs being
17 loaded. The trailers are thoroughly washed and
18 disinfected both inside and out. The trailers are
19 then taken to a separate state of the art facility
20 for drying. This process allows the disinfectant
21 to completely eliminate any bacteria that may
22 remain in the trailer. Trailers are also randomly
23 inspected by on-site supervisors for cleanliness,
24 and our director of quality control continually
25 monitors protocols and procedures to ensure

1 compliance. Trailer sampling tests are completed
2 and sent to the Manitoba Vet Lab to ensure that
3 the processes are effective and there are no
4 lingering bacteria present. Some customers also
5 request that trailers are vet inspected by an
6 independent third party to further guarantee that
7 the trailers arriving at their facilities are, in
8 fact, disease free. Finally, clean trailers are
9 segregated on the yard to eliminate any chance of
10 cross contamination.

11 In addition to the strictest of
12 protocols in equipment clean up, our drivers are
13 required to complete three days of orientation to
14 properly equip them to adhere all biosecurity
15 policies.

16 There is pressure facing our industry
17 as a result of a number of factors, including the
18 U.S. homeland security, as they continue to raise
19 the bar on expectations for the transportation
20 industry.

21 The current pause in the hog industry
22 also creates uncertainty for our growth within
23 Manitoba as we move forward more cautiously under
24 these current economic conditions. Our business
25 growth along with the spin-offs is fundamentally

1 linked to the hog industry and their growth. Our
2 group of companies also provide economic benefits
3 to many other trade and industry groups, including
4 supplies of fuel, tires, parts and equipment, of
5 which most is purchased from businesses located in
6 Manitoba.

7 Without the growth in the hog
8 industry, we can say with confidence that Steve's
9 Livestock would not be the company that it is
10 today. The temporary pause implemented by the
11 Manitoba Government has caused uncertainty, not
12 only among the hog producers in the province, but
13 also within our transportation industry and the
14 agriculture economy province wide.

15 Our goal in our presentation today has
16 been to communicate the message that we, along
17 with the hog industry we serve, strive to be
18 environmentally responsible in our business
19 practices. We care about our communities and want
20 to continue to provide the best future possible
21 for all generations to enjoy. We want our
22 province to be a place that our children want to
23 stay because of diverse opportunities we are able
24 to provide on the foundation of agriculture.
25 Thank you.

1 THE CHAIRMAN: Thank you very much,
2 Mr. Peters. This is a different presentation. We
3 haven't heard from the transportation industry to
4 date. How many trucks would you have hauling?

5 MR. PETERS: We have just over a
6 hundred trucks hauling.

7 THE CHAIRMAN: And is most of the
8 hauling across the border to the United States?

9 MR. PETERS: About 45 per cent of our
10 hauling is into the United States.

11 THE CHAIRMAN: And where would the
12 other 55 per cent be to?

13 MR. PETERS: The other 55 per cent
14 would be within Canada.

15 THE CHAIRMAN: To processing plants in
16 Canada, or to grow areas in Canada?

17 MR. PETERS: Right, to processing
18 plants, to grow areas, to finisher barns, to feed
19 lots, correct.

20 THE CHAIRMAN: So virtually all of
21 your business is hog related?

22 MR. PETERS: The most part is, yes.

23 THE CHAIRMAN: Yes. You mentioned in
24 here the challenge of the American homeland
25 security. How much of a problem is that for your

1 truckers?

2 MR. PETERS: It's created I guess more
3 paperwork at our end just to be able to cross the
4 border. First of all, in certifying drivers to
5 make sure that they are secure in crossing the
6 border, it's created challenges. We are required
7 to seal trailers when they are on our yard here
8 just to ensure that nobody is throwing things into
9 them that would be a potential threat for the
10 border. The U.S.D.A., we are required, unlike
11 regular freight companies, we are required to stop
12 at not only customs but also at the U.S.D.A.
13 offices, who inspect both the livestock that we
14 have on the trailer, as well as the equipment that
15 it is being transported in. They are checking for
16 things like stocking densities, making sure there
17 is enough bedding and that the animals are fit and
18 okay.

19 THE CHAIRMAN: Are they located near
20 the border or at the border?

21 MR. PETERS: They are located right at
22 the border, correct.

23 THE CHAIRMAN: Edwin?

24 MR. YEE: Yes, Mr. Peters. In terms
25 of the biosecurity, are these measures required by

1 regulations?

2 MR. PETERS: They are required by our
3 industry, by the hog producers that we service.

4 MR. YEE: Do they stipulate the
5 frequency in the number of tests, that kind of
6 thing?

7 MR. PETERS: That is something we have
8 developed in consultation with them and with their
9 veterinarians.

10 MR. YEE: Thank you.

11 THE CHAIRMAN: Wayne.

12 MR. MOTHERAL: Yes, thank you.

13 Mr. Peters, you are describing all the hogs that
14 you transport, some to the States, and some
15 probably from barn to barn, weanlings to feeder
16 barn, et cetera. Is this a common thing in the
17 industry that, some of the bigger operations, do
18 they contract out the trucking or do they have
19 their own trucks?

20 MR. PETERS: Some operations have
21 their own trucks. Probably it's a combination
22 where they hire a commercial carrier such as
23 ourselves to do that work for them.

24 MR. MOTHERAL: What is the shelf life
25 of a trailer? I know you keep it clean.

1 MR. PETERS: The shelf life?

2 MR. MOTHERAL: You know what I mean,
3 how many years can you operate one trailer?

4 MR. PETERS: Approximately five to
5 eight years.

6 MR. MOTHERAL: And just on the
7 municipal side, and being a former councillor, I
8 know that we were concerned with some municipal
9 roads when we had a hog operation come into our
10 area. Do you have designated routes that the
11 municipality wishes you to drive on, or do you
12 drive mostly on any roads you want to?

13 MR. PETERS: We have designated
14 routes. Municipalities, we are in consultation
15 with them, they call us and request us to stay off
16 certain routes, which we enforce, we ask our
17 drivers to stay off of them as well, as best we
18 can, yes.

19 MR. MOTHERAL: I think that has come a
20 long ways in the past few years. Because I know
21 there was a lot of damage done to municipal roads,
22 I know in our case there was when the operation
23 first --

24 MR. PETERS: We do our utmost to do
25 the best that we can by reducing the weights that

1 we load as well.

2 MR. MOTHERAL: So you're pretty well
3 pleased with the routes you have, and even though
4 sometimes it might be extra distances, but you do
5 keep --

6 MR. PETERS: Pretty much pleased, but
7 I think there's always room for improvement.

8 MR. MOTHERAL: I think that's all I
9 have.

10 THE CHAIRMAN: You are based in
11 Blumenort; is that correct?

12 MR. PETERS: That's right.

13 THE CHAIRMAN: When the trailer comes
14 to the end of its five to eight years, is it
15 scrapped at that point, or can it be rebuilt or
16 refurbished?

17 MR. PETERS: They can be refurbished
18 to a point. Other than that, they are resold. We
19 don't keep them, we sell them into the used
20 trailer market.

21 THE CHAIRMAN: Thank you very much for
22 coming out this morning and giving us this
23 presentation.

24 MR. PETERS: Thank you.

25 THE CHAIRMAN: Karen Friesen. Please

1 state your name from the record?

2 MS. FRIESEN: Karen Friesen.

3 KAREN FRIESEN, being first sworn, presented as
4 follows:

5 MS. FRIESEN: Good morning gentlemen.

6 My name is Karen Friesen, and my husband Larry and
7 I, and our two children, own and operate a mixed
8 grain and livestock operation in the community of
9 Tourond near Niverville, Manitoba, which is in the
10 RM of Hanover. First let me thank you for the
11 opportunity to address the panel today. I felt it
12 was important to be here and offer another farm
13 family perspective on how we run our operations
14 and how we are consciously making every effort to
15 be good stewards of the land and to preserve our
16 environment right from the farm gate. My comments
17 today will be based solely on what we as a family
18 are doing on our own farm, but I do have to say
19 that I have confidence that there are many, many
20 similar stories out there, from all sorts of farms
21 across the province that understand the importance
22 of the environment, and whom are also doing their
23 part to preserve it.

24 On our farm we currently farm
25 1,400 acres of mixed grain, including such crops

1 as corn, soybeans, canola and wheat. We also have
2 a poultry operation that consists of 18,000 laying
3 hens located on our home quarter. This operation
4 equates to 150 animal units. We also have a hog
5 operation that we built brand new three years ago
6 that consists of two feeder barns or 4,000 hogs or
7 572 animal units.

8 My husband was born and raised on this
9 farm. I actually grew up in the city and took my
10 Degree in Agriculture at the University of
11 Manitoba. We have been farming together now for
12 18 years and are already planning for our children
13 to be able to continue on the family farm.

14 In order to succeed in today's
15 agricultural economy and environment, many
16 complicated issues need to be addressed. We
17 believe diversification on the farm is extremely
18 important to the economic sustainability of our
19 farm. Over the years we have tried to continually
20 grow our farm, not only in size, but also in how
21 and what we are doing on our farm.

22 Diversification has been instrumental for us as
23 far as spreading the risks such as weather and
24 market prices.

25 We as grain farmers have all

1 experienced those years, a few too many of them,
2 when it has been difficult, if not impossible, as
3 it was both two and three years ago, to get either
4 the crop in the ground in the spring or off the
5 field in the fall. We have also all experienced
6 drought or frost or whatever Mother Nature decides
7 to throw our way. On the grain farm, we are all
8 familiar with the stress of living at the grace of
9 the weather man. You never know from one year to
10 the next what will happen. But over the years, we
11 have learned to change with the times and
12 diversify into new crops, et cetera. This has
13 been in response to changing weather patterns,
14 soil types, new crop varieties, new equipment, as
15 well as changes in markets for the products we are
16 producing.

17 In the difficult years on the grain
18 farm, it has always been a real blessing to have
19 our poultry and hog operations as another means of
20 income, and in many years to subsidize the grain
21 farm. Livestock farming does not have the same
22 set of risks as the grain farm might have for us,
23 but it too has its own set of risks; for example,
24 disease or biosecurity. We do love the fact that
25 both our poultry and hog operations are farmed

1 under a roof and weather is not as huge a factor
2 as it is on the grain farm. We have a controlled
3 environment in which we can strive to manage in a
4 manner that will provide an optimum environment
5 for the livestock we are producing, which will in
6 turn provide maximum production in returns to us
7 as the producers. Are very much in tune with the
8 internal environment that our chickens and hogs
9 are raised in as well, as the external environment
10 that surrounds us all.

11 We as farmers raising a young family
12 are concerned about the health of not only our
13 family, but also the health of our land and water.
14 We are teaching our children the importance of
15 these issues, not only in the schools, but also
16 right here at home on the family farm. We are
17 very aware of the importance of protecting our
18 environment for the future and we operate our farm
19 accordingly.

20 Mr. Grenier mentioned very eloquently
21 this morning, and I agree with everything he
22 talked about with regards to the hog side of
23 things. Today I'm going to focus a little more on
24 our poultry operation. But I have to say that I
25 agreed with, we are also doing, following all

1 regulations on the hog end of things as well.

2 Over the last few years we have made
3 several changes on our farm with regards to the
4 environment being the major focus. Let me take a
5 few moments just to mention a few of them. Almost
6 two years ago, we completely renovated our chicken
7 barn. We ripped out all of the old equipment,
8 which included such things as the cages, feeding
9 system, watering system, and the manure handling
10 system, which included an under the barn liquid
11 manure pit. We installed state of the art Hellman
12 cages and feeding and watering systems, as well as
13 a belt driven drying manure handling system. It
14 is amazing what a difference that this has made as
15 far as the internal environment in the barn goes,
16 not only for the birds, but for us and any
17 employees we have as well. The dry manure
18 handling system has reduced both the odour and
19 ammonia levels in the barn and has resulted in a
20 much cleaner environment, which has resulted in
21 increased flock performance. The overall ability
22 to manage manure property has also improved, as we
23 are dealing with far less volume when dealing with
24 dry manure versus liquid manure. We understand
25 the regulations of handling manure and are

1 currently following all of the recommendations and
2 are also planning for the future accordingly.

3 Manure, from both our poultry and hog
4 operations, has been used on our grain farm as
5 valuable fertilizer. This has resulted in major
6 annual cost savings every year on grain farm, and
7 this year will equate to at least \$15,000 worth of
8 fertilizer costs, moving directly from our poultry
9 and hog barns directly to our own fields.

10 We also soil test every field annually
11 to ensure proper utilization of all fertilizer
12 being applied. Recommendations for proper
13 fertilizer and manure spreading and the
14 application are adhered to at all times.

15 We as producers are also very aware of
16 the importance of animal care and are following
17 the code of practice guidelines and the on-farm
18 food safety programs. When we were in the
19 planning stages for our poultry barn renovation,
20 we followed and exceeded all code of practice
21 guidelines. For example, the recommended space
22 per bird of 67 inches was exceeded in our barn to
23 a space per bird of almost 90 inches. We have
24 been extremely pleased with both flocks we've had
25 in the barn since our renovation occurred. We

1 also take careful consideration of the HACCP
2 program and the on-farm safety program on our
3 farm. Every year when CEMA, or the Canadian Egg
4 Marketing Agency, comes to inspect us and evaluate
5 our barn, we strive to achieve high grades and we
6 make any recommended changes that they suggest. A
7 year ago I attended and completed the
8 environmental farm plan workshop on behalf of our
9 farm. I found it to be a very worthwhile exercise
10 for our operation. It was an excellent
11 opportunity to sit down and have a close look at
12 our own specific farming operation and the
13 management decisions we have been making with
14 respect to the environment on our own farm. It
15 was a great way to identify specific areas for
16 improvement, and also to identify that we are
17 already benefiting ourselves and the environment
18 in many areas. We have already implemented some
19 of these changes, which should have a direct
20 influence on the environment as well as our bottom
21 line. I believe that completing this workshop
22 will continue to influence future decisions on the
23 farm as well.

24 As egg producers in Manitoba, we truly
25 appreciate the guidance and support we receive

1 from CEMA and the Manitoba Egg Producers. I
2 believe they are invaluable in representing our
3 industry, both domestically and internationally.
4 They have been extremely valuable to us as
5 producers in keeping us informed on important
6 issues, changes in the industry and in the area of
7 strategic planning for the future of it.

8 We as egg producers are a well
9 organized group under the leadership of these
10 organizations. One of their main objectives is to
11 ensure that as a group we are doing our part to
12 protect the environment, particularly our water
13 resources. I believe that as a group we are doing
14 a commendable job of this and it will always
15 remain a priority to all of us.

16 I would also like to briefly comment
17 on the area of land use planning. When we were
18 applying for permits to build our hog barns, we
19 went through many of the processes that are
20 already in place. So I do have a little
21 experience I guess with regards to the land use
22 planning process. We understand the importance of
23 land use planning in rural municipalities in
24 Manitoba and, in fact, know how necessary it is.
25 Improved planning would go a long way to ensure

1 livestock growth occurs in appropriate areas that
2 will protect our environment. Planning must,
3 however, be done in an up-front, well thought out,
4 educated and fair way. We also appreciate the
5 Provincial Government for taking the initiative to
6 establish the Farm Practices Guidelines and the
7 technical review process for producers to utilize
8 and adhere to when establishing new livestock
9 operations. These guidelines and processes were
10 put in place to protect the surrounding
11 environment, as well as lay out clear and concise
12 guidelines for us as producers to meet. We know
13 they are necessary and we also support them 100
14 per cent.

15 Earlier you had asked Mr. Grenier if
16 he believed the rural municipalities should have
17 the final say on approval, and I'd just like to
18 state my opinion on that issue as well.
19 Personally, I do not believe that they should have
20 the final say on approval of either new livestock
21 or expansion. I believe that the processes are in
22 place already with such things as the technical
23 review process and the farm practices guidelines.
24 And I also believe that if we as producers meet
25 all of these regulations, it should not come down

1 to a simple council making that final say. I
2 support the province being the one making that
3 decision.

4 In closing, I would like you to know
5 that farming for us still boils down to one simple
6 concept, that being to protect the well being and
7 the future of our family farm. My husband was
8 born a farmer, I married a farmer, and our
9 children are being raised tomorrow's farmers.
10 There is something so rewarding about just knowing
11 our farm will continue another generation, with
12 today's agricultural committee at times being so
13 unknown. We feel fortunate to feel that way and
14 are conducting ourselves and planning for the
15 future with our farm in mind. We want to do
16 everything we can to ensure that this will happen,
17 and that includes protecting our environment, as
18 well as our livelihood and our way of life. Thank
19 you very much for this time and attention and this
20 opportunity to speak this morning.

21 THE CHAIRMAN: Thank you very much,
22 Ms. Friesen. You mentioned when you refitted your
23 laying barns with the new cages and feed and water
24 system, et cetera, and you noted that it's made a
25 big difference as far as internal environment, not

1 only for the birds. Does it become cost effective
2 at some point to put in a newer and better --

3 MS. FRIESEN: Oh absolutely. For us
4 it has. We have seen it in -- were are on our
5 second flock right now since the new equipment has
6 gone in, and the flock performance has increased
7 substantially, which of course means better
8 returns at the other end.

9 THE CHAIRMAN: And is this something
10 that -- I guess egg production is quota, there's
11 probably no small operators, are there?

12 MS. FRIESEN: I don't know what the
13 smallest operation would be in the province.

14 THE CHAIRMAN: What I am getting at
15 is, could a smaller operator afford to do this or
16 could they afford not to do it?

17 MS. FRIESEN: Well, I would think, I
18 would say, yes, they could afford to do it, if
19 their equipment was at a stage where it's breaking
20 down, which ours was at that stage, and
21 maintenance of that equipment just no longer made
22 sense.

23 THE CHAIRMAN: But with the increased
24 flock production, that even adds to the benefits?

25 MS. FRIESEN: Absolutely, and also by

1 putting the new equipment in the barn, the
2 environment is not only better for the birds, but
3 also for people in the barn, but it also made
4 space for expansion of the flock.

5 THE CHAIRMAN: And giving the birds
6 approximately 30 or 35 per cent more space than
7 required, did that improve production as well?
8 Was there a cost --

9 MS. FRIESEN: Well, it's hard to nail
10 it down as to what exactly has -- we always had
11 pretty decent flocks, but we have noticed
12 performance to increase. But there is no doubt
13 that putting the new equipment in the barn also
14 allowed for that option of expanding down the
15 road, which quite possibly could be in the cards
16 somewhere down the road.

17 THE CHAIRMAN: Thank you.

18 MR. YEE: Yes, Ms. Friesen, could you
19 just briefly explain the HACCP program?

20 MS. FRIESEN: Well, the HACCP program
21 is the program that has been put in place, and if
22 I'm not correct on this --

23 MR. YEE: That's okay.

24 MS. FRIESEN: -- I am just going by my
25 understanding of it. That basically is a program

1 that regulates the environment in the barn, and
2 it's a way of grading producers under certain
3 guidelines that are to be followed. And every
4 year CEMA comes out from Ottawa, I believe, we
5 have a fellow that comes out and goes through the
6 barn with my husband. And they go through the
7 list, the checklist of what is required in that
8 barn, and you are given an actual grade. And if
9 you don't, if there's certain areas that they
10 would like changed, then those changes are put
11 into place virtually immediately. But we strive
12 to have as close to 100 per cent as possible. And
13 I know, I read the stats on that. I think close
14 to 23 per cent of egg producers in Manitoba are
15 very close to that 100 per cent, and I believe
16 close to 80 per cent are over 90 per cent. So
17 we've got a very good track record as far as --
18 it's a policing of the entire group of producers.

19 MR. YEE: So that particular program
20 is directed at the egg producing barns?

21 MS. FRIESEN: That's right, yes.

22 MR. YEE: The only other thing I was
23 thinking in terms of your capital outlay, are
24 there any programs or grants that are available to
25 help farmers out in terms of upgrading their

1 operations? Are you aware of --

2 MS. FRIESEN: Well, maybe there's
3 something I don't know about. But certainly I
4 think it's an excellent idea if there are. The
5 environmental farm plan, for example, is a good
6 one. There's certain things that wouldn't
7 qualify. For example, new equipment doesn't
8 qualify. Modifications to certain types of
9 equipment does qualify, but as far as recaging, I
10 wish it would, that would be wonderful, but any
11 kind of help to encourage changes to make things
12 more environmentally friendly I think are
13 fantastic programs. In fact, just that
14 environmental farm plan one as well I believe is
15 ending the end of -- you have to have all your
16 expenses in by the end of '07. And I would hope
17 they would extend that because it's an excellent
18 program.

19 MR. YEE: Thank you, Ms. Friesen.

20 MR. MOTHERAL: Thank you,
21 Mr. Chairman.

22 Ms. Friesen, I was following your
23 presentation -- very well put together by the
24 way -- but I just about fell off my chair when you
25 said good things about the technical review

1 committee because I haven't heard that yet.

2 MS. FRIESEN: Well, I've been through
3 that process more than once and I think it's a
4 necessary process, I do. I don't agree with who
5 is making the final decision in the end, I think I
6 made that clear, but the actual process is there
7 for a reason. It's a very scary process for a lot
8 of people, but I think it's necessary. I do.

9 MR. MOTHERAL: I understand that.
10 It's just that was the first time that we actually
11 had somebody say something good.

12 MS. FRIESEN: I hope I didn't offend
13 any farmers.

14 MR. MOTHERAL: No, I don't think so.
15 The H -- HACCP, you were saying, what do the
16 letters stand for, HACCP?

17 MS. FRIESEN: I don't know. Does
18 anybody else know?

19 UNIDENTIFIED SPEAKER: Hazard analysis
20 and critical control point.

21 MS. FRIESEN: I just call it HACCP.

22 MR. MOTHERAL: Obviously you have both
23 chicken manure and hog manure. Do you handle them
24 differently as far the amount of AMP when you put
25 it on crops?

1 MS. FRIESEN: Well, there are
2 different levels in the chicken versus the hog.
3 Now, we are very regulated on both ends, but I
4 think it was discussed a little bit earlier. We
5 are dealing with dry chicken manure now, which the
6 volume is far less than what it was when it was
7 liquid, as are the nitrogen levels and phosphorus
8 levels of dry versus liquid. Now, I don't know
9 exactly what the differences are off the top of my
10 head. But I know that with our liquid, with our
11 hog farm, we get that all custom pumped, or custom
12 done in the fall. So I'm not really involved with
13 that, but there are samples taken and I know that
14 it's all done to code.

15 MR. MOTHERAL: So it's handled the
16 same way, you actually have an analysis of it?

17 MS. FRIESEN: Oh yes, absolutely.

18 MR. MOTHERAL: And it's done according
19 to what the crop uptake is?

20 MS. FRIESEN: That is right, yes. And
21 it's injected on our farm as well.

22 MR. MOTHERAL: Injected?

23 MS. FRIESEN: The hog manure.

24 MR. MOTHERAL: Okay. I am thinking --

25 MS. FRIESEN: The chicken, no.

1 MR. MOTHERAL: Okay. That's all,
2 thanks.

3 THE CHAIRMAN: Thank you very much,
4 Ms. Friesen, for coming out today. Ab Freig,
5 would you state your name for the record, please?

6 MR. FREIG: Yes, my name is Ab Freig,
7 I'm the president and CEO of the Puratone
8 Corporation.

9 AB FREIG, first being sworn, presented as follows:
10

11 THE CHAIRMAN: Go ahead, sir.

12 MR. FREIG: Thank you for the
13 opportunity to speak to CEC committee this
14 morning. I am here to present on behalf of the
15 Puratone Corporation, and hundreds of employees,
16 their families, our shareholders and the
17 independent producers who make up our company.

18 Puratone is a major swine production
19 company operating mainly in Manitoba. The company
20 was founded in Niverville in 1973, by local people
21 and staff of approximately 10. We now employ 360
22 people who work on farms, caring for animals,
23 manufacturing feed in the feed mills, trucking
24 feed and livestock, or working in the office. Our
25 Manitoba payroll is in excess of \$1 million a

1 year. The company --

2 THE CHAIRMAN: 1 million?

3 MR. FREIG: Sorry, \$10 million a year.

4 The company owns and operates and manages
5 approximately 46,000 sows in numerous locations in
6 Manitoba. We produce and manage more than
7 1 million pigs a year.

8 Our commitment to the environment:

9 Puratone has a strong and genuine commitment to
10 the environment. We are committed to be a leader
11 in environmental protection within our fields.
12 Our commitment stems from our conviction that the
13 environment must be protected for our generation,
14 our children, our grandchildren's generation, and
15 many generations to come. We also believe it is
16 good business and it is in our best interest to be
17 good stewards of the land. We believe in a strong
18 link between community well being and the
19 protection of the environment. Our employees, our
20 shareholders, our families, and our families live
21 in close proximity to most of our facilities. We
22 also enjoy and use for leisure the lakes and river
23 systems in Manitoba. We are committed to working
24 with the local and provincial governments, and our
25 colleagues in the industry, towards a progressive

1 and sustainable regulations, guidelines, and best
2 practices.

3 To further demonstrate our commitment,
4 we subjected our environmental management system,
5 our E.M.S., to the rigorous international
6 standards of ISO 14001. Our environmental
7 management system gets audited every year by third
8 party independent auditors. Puratone has a good
9 track record of innovation and best management
10 practices. And we, as an example, we pioneered
11 the use of vessel composting for livestock
12 mortalities in order to help protect the
13 environment. We were the first and are still the
14 only company in Canada using ISO 14001 to help us
15 manage our environmental management system.

16 We are currently studying the
17 separation of solids and liquids of hog manure to
18 help us adapt to the new phosphorous regulations
19 affecting some of our operations. As you know,
20 those regulations were announced in November 2006,
21 and we immediately started working on ways to help
22 us adapt and meet the guideline for those, the
23 regulations when it comes in effect.

24 I hope members of the CEC accept our
25 invitation to visit any of our facilities to gain

1 firsthand experience of the environmental
2 procedures we employ and gain understanding of our
3 commitment to the environment. I believe I made
4 that invitation before and, hopefully, you'll be
5 able to take us up on it.

6 Manure, I wanted to talk just briefly
7 about manure application. We consider that manure
8 produced by the hog barns or any of the livestock
9 operations as a nutrient resource that need to be
10 applied correctly to yield a maximum benefit for
11 the crops. We do not consider it waste and we do
12 not treat it as such.

13 Our manure is applied with the
14 appropriate quantities to benefit the plants and
15 prevent any build-up and run-offs. The manure is
16 also injected whenever possible to again maximize
17 plant uptake and minimize the possibility of
18 run-offs or odour.

19 I just want to speak briefly about our
20 view of the CEC review. I just wanted you to know
21 that Puratone has a very high regard to the work
22 quality and objectivity of the CEC. We welcome a
23 fact based and objective review of the industry.
24 Although, we were not pleased with the decision to
25 impose the temporary pause on the expansion of the

1 hog industry, we welcome the opportunity for you
2 to review our industry and for us to demonstrate
3 to you and to the public our environmental
4 stewardship and the economic importance of our
5 industry for Manitoba.

6 As I stated before, the review must be
7 objective, fact and science based. The committee
8 must carefully review the available science based
9 information and must avoid pressures from interest
10 groups and the media. The committee should work
11 diligently to understand the nature of the
12 Manitoba environment and gain understanding of the
13 environmental procedures utilized by the industry.

14 The government just introduced new
15 regulations in November 2006 to reduce phosphorus
16 levels. The industry has worked with the
17 government closely, providing feedback on the new
18 regulations.

19 Those new regulations must be allowed
20 time to be implemented and evaluated for
21 effectiveness before any new regulations are
22 imposed. The industry has accepted the new
23 regulations and I am confident that those
24 regulations will not only be met but exceeded by
25 the industry. Puratone has already, as I stated

1 earlier, started research work to prepare us for
2 the new phosphorus regulations.

3 CEC and the industry: The CEC must
4 focus on the environmental sustainability of the
5 hog industry in Manitoba. And I can talk a bit
6 more about that later. But it's important to
7 focus environmental sustainability of the hog
8 industry. The conclusions and the recommendations
9 by CEC are very important to the livelihood of
10 15,000 direct employees and their families that
11 work in the industry.

12 In summary, I thank you for the
13 opportunity to present on the behalf of the
14 company. I look forward to working with the CEC
15 to arrive to an objective and sound review for our
16 industry. Thank you.

17 THE CHAIRMAN: Thank you, Mr. Freig.
18 I'll ask you to expand on your almost last comment
19 about focusing on environmental sustainability of
20 the hog industry?

21 MR. FREIG: The CEC and the government
22 must take into account, in the demands for more
23 regulations, we have seen this is the most highly
24 regulated hog industry in Canada, and I'm sure
25 it's in North America. And we cannot continue to

1 sustain more regulations that impose financial
2 burden on the industry, without thinking of how
3 this industry would be sustained going forward.
4 So we can regulate the industry to death, and then
5 you'll have what you want, but you won't have any
6 industry. So the industry, the regulations in the
7 industry have to be sustainable, have to work
8 together.

9 THE CHAIRMAN: So what concerns might
10 you have? What other areas are you concerned that
11 we might look at?

12 MR. FREIG: Well, what we have --
13 you're doing a review of the industry, which is
14 great, to gain an understanding and make
15 recommendations to the government what more needs
16 to be done if it wasn't, what wasn't already done.
17 One of the main, I believe, concerns of the people
18 of Manitoba and the government of today is to
19 relate it to water quality, and specifically to
20 Lake Winnipeg. And the government, through their
21 own wisdom, has decided maybe the hog industry has
22 a major impact on that, although government
23 numbers indicate it's between one and one and a
24 half per cent.

25 THE CHAIRMAN: I don't think those are

1 government numbers.

2 MR. FREIG: I believe those are water
3 stewardship numbers.

4 THE CHAIRMAN: Well --

5 MR. FREIG: You stipulate them anyway,
6 if you don't agree with them. If you look at the
7 tables on where the sources come from, and there
8 are water stewardship tables, you can look at them
9 and you can stipulate from there how much can come
10 from the hog industry. Nevertheless, the
11 importance is on water and water quality. And the
12 government has recognized that for a long time.
13 Phosphorus was not considered the factor when you
14 apply manure, it was only based on nitrogen, the
15 application was based on nitrogen, where in some
16 cases maybe there is, it started to have higher
17 concentration of phosphorus. So the government
18 definitely has identified that, and the industry
19 has worked with the government on that, and there
20 are new regulations that were just put forward in
21 November of 2006. And in some cases, I am
22 suspecting in some cases we may not be able to
23 carry on with the application of manure that we
24 have been able to carry on in the past because of
25 the phosphorus levels. So, therefore, there would

1 be economic investment to come up with a new
2 methodology to assist us with meeting those
3 regulations.

4 And this was just added in November of
5 2006, and now I'm cautioning I guess against other
6 regulations that to go further for the purpose of
7 reducing phosphorus or the purpose of protecting
8 water quality, which is the brand new regulations
9 that were just put in place will have, or should
10 have an impact in reduction of the phosphorus --
11 it definitely will have an impact in some of the
12 major sensitive areas -- will not have been
13 allowed to work. We want to make sure that they
14 are allowed to work and make an evaluation of
15 that. And based on, I believe those regulations
16 came in place based on science, based on a lot of
17 research by government officials and industry
18 people. And we have all along with the government
19 said we are prepared to accept those regulations,
20 we basically worked with them on a time line for
21 implementation. However, we will be very pleased
22 to go ahead and put these new regulations in place
23 and use them and do whatever is needed to help us
24 meet the regulations.

25 THE CHAIRMAN: I think I can assure

1 you that we don't view our role as trying to solve
2 all the problems of Lake Winnipeg. In fact, we're
3 not really looking at issues around Lake Winnipeg
4 at all. We recognize that what we do may have
5 future impact on Lake Winnipeg, but that's not the
6 primary purpose of our review by any stretch.

7 I would also say that environmental
8 sustainability, just that alone is a fairly broad,
9 or fairly broadly inclusive term.

10 MR. FREIG: I just want to add also,
11 in terms of the lake, the industry is committed to
12 do its part. The industry is not different, we
13 are not walking away and saying just go look
14 elsewhere, don't look at us, we are committed to
15 our part.

16 THE CHAIRMAN: We are aware of that.
17 Do you raise any hogs to full growth?

18 MR. FREIG: Yes.

19 THE CHAIRMAN: You do?

20 MR. FREIG: We raise approximately
21 half a million hogs to full growth.

22 THE CHAIRMAN: So about half of your
23 output is raised to full growth?

24 MR. FREIG: Yes.

25 THE CHAIRMAN: And the other half is

1 sold off as weanlings or isoweans.

2 MR. FREIG: Sold off as weanlings, we
3 also export some to the United States. And I
4 didn't mention in my presentation, but we have an
5 operation in Iowa, in the United States, and we
6 are raising 130,000 hogs a year there, and we have
7 been solicited to do more in Iowa. And one of the
8 driving factors for the people, the producers in
9 Iowa to want us to come and build, or contract
10 operations to raise our hogs in Iowa is manure.
11 They want the manure, they value the manure as the
12 fertilizer. The cost of the fertilizer is going
13 up and they definitely value that. So we have
14 been solicited by a number of players in the
15 States to come and raise our hogs in Iowa. And
16 our first choice, of course, is to do it here in
17 Manitoba, in Canada, because it's value added,
18 there are jobs. So we spend \$25 million a year in
19 Iowa now and, you know, we would rather spend it
20 here.

21 THE CHAIRMAN: We heard yesterday, not
22 in respect of your company, but we heard yesterday
23 that there were some places now that wanted the
24 hogs for manure first and for meat second. Do you
25 anticipate increasing the number of hogs you raise

1 to full size?

2 MR. FREIG: Here in Manitoba?

3 THE CHAIRMAN: Here in Manitoba.

4 MR. FREIG: It will depend on many
5 factors, I mean, economics drive, drive the
6 equation. So when we started, our expansion into
7 the U.S. was driven by the value of the dollar
8 going up drastically. The value of inputs, the
9 value you have the cost of gasoline and diesel to
10 freight the animals south, and the threat of trade
11 issues with the U.S. So for us it was a risk
12 management tool, and any further decision would be
13 dependent on what the factors are affecting our
14 decision.

15 THE CHAIRMAN: How about processing
16 capacity? Does that play a role in whether or not
17 you grow it to adult?

18 MR. FREIG: Definitely, definitely.
19 We do not have in Manitoba sufficient processing
20 capacity today. And we produce, as you are aware,
21 eight to eight and a half million hogs, pigs a
22 year in Manitoba. And the processing capacity in
23 Manitoba, when the plant double shifts, will be
24 about four and a half million hogs a year. So it
25 leaves a deficit of approximately four million,

1 and it will be the best thing for the industry if
2 we see the processing capacity in Manitoba
3 increased, for many factors.

4 THE CHAIRMAN: Bigger hogs produce
5 more manure, don't they?

6 MR. FREIG: Yes. If it's managed
7 properly, there is nothing to be afraid of manure
8 and more manure, there's nothing to be afraid.
9 There is right now, if you -- if anybody would
10 tell me today that we would stop using fertilizer
11 altogether because we have sufficient quantities
12 of manure everywhere, then I would agree that
13 maybe we don't need any more, but it's not the
14 case at all. Fertilizer is still sold by the
15 millions of dollars in Manitoba and brought into
16 areas that are considered to be having high
17 phosphorus levels. There is still higher levels
18 of phosphorus in organic fertilizer coming into
19 those areas to be applied. And the farmers have
20 for generations, for hundreds of years, have been
21 good stewards of the land. They know what the
22 land needs and they know what the crops need. So
23 if it's needed, it's needed for the crops to grow.
24 That means the soil doesn't have it.

25 THE CHAIRMAN: Thank you. Edwin?

1 MR. YEE: Yes. Mr. Freig, you
2 mentioned you've got 46,000 sows in numerous
3 locations. Can you just give me an idea what the
4 minimum size barn operation is in your company and
5 what the largest one would be?

6 MR. FREIG: The largest one would be
7 approximately 3,000, 3,500 sows in one location.
8 The smallest one would be as small as 400 sows.

9 MR. YEE: In terms of, you are
10 studying the separation of the manure into solids
11 and liquids, can you give us an idea of sort of
12 the technologies you're looking at?

13 MR. FREIG: We're looking at numerous
14 things. It's not easy to separate. We have been
15 working on this for quite some time, believe me,
16 before the phosphorus regulations came into
17 effect, we have been working on it because we
18 believe that we are going to need that in the
19 future in certain areas. So before that, as I
20 said, before the regulations came into effect, we
21 recognize that we need to do something there.
22 There we tried to, by using a screw in an
23 operation where pressing the solids against a mesh
24 and separating the solids this way, and it did not
25 work. We were only able to separate 50 per cent

1 of the solids. So after doing quite a bit of work
2 on that, it did not work. We have used different
3 material to separate the solids from liquid, but
4 it did slow the operation quite a bit. And now
5 we're looking at other things, like possibly
6 centrifuging. And our engineers will be out next
7 month, two weeks from now, or three weeks from
8 now, going into a specific place in Canada where
9 the technology is used and we're going to be
10 studying that. We have also sent some of our
11 people to Europe to look at technologies there to
12 see how we can separate. Most of the phosphorus,
13 if not all of it, most of the phosphorus is in the
14 solids.

15 MR. YEE: Thank you, sir.

16 THE CHAIRMAN: Wayne?

17 MR. MOTHERAL: Just one question, with
18 the operations in Manitoba, where are they
19 distributed? Like in area, do you have many in
20 western Manitoba? Where is your concentration?

21 MR. FREIG: We have some operations in
22 the Interlake where we have a feed manufacturing
23 operation there, and that would be in the Arborg,
24 Riverton area and Teulon area. We also have
25 operations in southeast, right here, in many

1 communities in the southeast. And we will have
2 some in the southwest, in Winkler and west of
3 Winkler. And we contracted some operations, part
4 of the 46,000 sows will be in the western
5 Manitoba, western along number 1, in the Hamiota
6 area. So we're spread out.

7 MR. MOTHERAL: Okay. Thank you.
8 That's all.

9 THE CHAIRMAN: Thank you very much,
10 Mr. Freig.

11 MR. FREIG: Okay. Thank you.

12 THE CHAIRMAN: We'll take about a 10
13 minute break and we'll reconvene at quarter to.

14 (Hearing recessed at 10:36 a.m. and
15 reconvened at 10:49 a.m.)

16 THE CHAIRMAN: Could I ask you to
17 resume your seats, please, so we can reconvene and
18 get back at it?

19 I should note that we will continue,
20 we're not reconvening after lunch today so we will
21 continue here this morning as long as we need to
22 hear all of the presentations. If there's anybody
23 in the audience today who wishes to make a
24 presentation, who hasn't already indicated, would
25 you please let Joyce know in the next half an hour

1 or an hour. Joyce is over at the side table.

2 Next on our agenda is Mary Jane
3 Hiebert.

4 MS. HIEBERT: Good morning. My name
5 is Mary Jane Hiebert, president of the Steinbach
6 Chamber of Commerce.

7 THE CHAIRMAN: I'll have Cathy
8 administer the oath.

9 MARY JANE HIEBERT, being first sworn, presented as
10 follows:

11 MS. HIEBERT: Just a few comments.
12 The Steinbach Chamber of Commerce is one of the
13 largest rural Chambers of Commerce in Manitoba.
14 Our 260 members represent all business sectors,
15 including the many sectors of agriculture. We are
16 here today in support of Manitoba's hog industry
17 and particularly in support of the industry in the
18 southeast.

19 The importance of the hog industry to
20 southeastern Manitoba cannot be overstated. It
21 has contributed to the southeast region of
22 Manitoba being the fastest growing region in
23 Canada. The industry and its supporting services
24 has had a major positive impact on many businesses
25 and services. Examples include the southeast

1 being home to a new education complex and a new
2 cancer care facility at Bethesda Hospital, two
3 services which impact many lives in the community.

4 In a time where agriculture is
5 struggling in many other parts of the country, we
6 have the enviable position of having a very strong
7 and vibrant agriculture sector, in which the many
8 parts of the agriculture equation support one
9 another resulting in growth and prosperity for
10 all. As an important employer, the hog industry
11 contributes to the low unemployment rates in the
12 region and actively participates in the hiring of
13 local people and new immigrants. The spin off
14 effect as a result of the industry has lead to the
15 growth of livestock transportation which results
16 in more jobs for local people, the growth of the
17 construction trade in the area, resulting in
18 increased purchases from local suppliers of
19 construction materials and employment opportunity
20 for youth. The economic benefit to rural Manitoba
21 is realized by an increase in the tax base that
22 has resulted in improved drainage, new roads and
23 busy schools.

24 Land and environmental stewardship
25 have always been a part of everyday practice for

1 the industry. Farm families live on the land
2 where the barns are located and manure is properly
3 managed.

4 As a representative of Manitoba's
5 businesses, we are confident that research,
6 science, and sound business will prevail, allowing
7 the hog industry to continue to be a significant
8 contributor to Manitoba's economy and social
9 well-being. Thank you.

10 THE CHAIRMAN: Thank you, Ms. Hiebert.
11 The new education complex, what is that?

12 MS. HIEBERT: It is a building that is
13 supporting a variety of education facilities to
14 come into our region. For example, the U of W,
15 Red River College, et cetera, Assiniboine College,
16 there are a number that are actually renting space
17 in that facility. So rather than providing
18 education out of the area, they are moving into
19 our area without having to build their own
20 building.

21 THE CHAIRMAN: The U of M is not?

22 MS. HIEBERT: They are wanting to,
23 they are banging on our door.

24 THE CHAIRMAN: Oh good. One of my
25 other hats, I am a chair of the Board of the

1 University of Manitoba.

2 MS. HIEBERT: Good.

3 THE CHAIRMAN: The hog industry has
4 really grown in the last 12 or 15 years. What was
5 the state of the agricultural economy prior to
6 that in this area?

7 MS. HIEBERT: Well, agriculture has
8 always been very strong in our area. I mean, in
9 particular our community was built around it, that
10 and transportation particularly, many, many years
11 ago. So it's always been a strong heritage for
12 us. And I'm not a farmer, I don't live on a farm
13 but all of my ancestors did. So it's a historic
14 value that we treasure here.

15 THE CHAIRMAN: Thank you.

16 MR. MOTHERAL: We had a similar
17 presentation by Mayor Goertzen, so thank you.

18 THE CHAIRMAN: We've heard about the
19 benefits of this community and how well this
20 community is doing. So congratulations, it must
21 make your job a little easier.

22 MS. HIEBERT: Somewhat, yes.

23 THE CHAIRMAN: Thank you very much for
24 taking the time to come out this morning.

25 MS. HIEBERT: Thank you very much.

1 THE CHAIRMAN: Next is Eric Gregory.

2 MR. GREGORY: Good morning ladies and
3 gentlemen, my name is Eric Gregory and currently I
4 work as an agronomist with James Richardson
5 International out of Brunkild, Manitoba. I also
6 have with me Walter Enns, who works as an
7 agronomist for Cargill Limited out of Morris,
8 Manitoba. Today we are here on behalf of the
9 Prairie Certified Crop Advisor Board, where I
10 currently sit as vice chair. Walter, who is also
11 a practising CCA, also works with livestock
12 producers as a registered manure management
13 planner.

14 THE CHAIRMAN: Thank you.

15 ERIC GREGORY and WALTER ENNS, being first sworn,
16 presented as follows:

17 THE CHAIRMAN: Go ahead.

18 MR. GREGORY: Okay. Thank you.
19 Again, good morning. I just want to start off by
20 saying that Walter has no vested interest in the
21 livestock industry, but we do, as most people here
22 today, have an interest in maintaining an industry
23 that contributes to a healthy provincial economy
24 and provides a decent standard of living for those
25 who choose to work in it.

1 Just as the economic contributions are
2 important, so are minimizing the effects that this
3 industry has on our environment to a level deemed
4 acceptable by the regulators and public at large.

5 As a CCA, I believe the corner stone
6 to any environmental stewardship plan is having
7 the proper regulations in place, and equally
8 important are having the proper people in place to
9 help interpret and implement any said regulations.

10 Specifically, I'm speaking to the
11 existing and future manure management planning
12 policies around Manitoba livestock operations, and
13 how CCAs, certified crop advisors, need to be part
14 of the solution to what is a potential problem.

15 We are here today representing approximately 220
16 CCAs from across the Province of Manitoba.

17 Currently Manitoba Conservation recognize CCAs as
18 third party service providers for registered
19 manure management plans. As legislation and
20 policy is moved forward, CCAs would like the
21 option to keep this status. So I'll take this
22 opportunity this morning just to remind the
23 commission of the benefits and fit that the CCA
24 program has within the livestock industry.

25 The CCA program, just to give you a

1 bit of a background in case you are unaware, is
2 one of the professional certification programs
3 offered by the American Society of Agronomy. It
4 is a voluntary program providing a based level of
5 standardization through testing and raising that
6 standard through continuing education. CCA
7 certification is aimed at anyone who spends the
8 majority of their time advising growers on
9 agronomic practices, and can meet the stringent
10 knowledge, experience, and ethical requirements to
11 gain entry into the program.

12 CCA's are employed by independent and
13 land company crop input retailers, such as myself
14 and Walter. However, they are also employed by
15 Manitoba Agriculture food role Initiatives,
16 Agriculture Canada, the faculty and school of
17 Agriculture at the University of Manitoba, plus
18 many other organizations who make it their
19 business to provide front line crop advising and
20 extension services to growers.

21 Now, unlike other designations,
22 educational achievement is an asset but it's not a
23 requirement of the program. The standard is
24 competency based on demonstrated knowledge, not on
25 formal level of education attained. Candidates

1 are required to write and pass two entrance exams,
2 and these exams cover four streams of study, which
3 are nutrient management, soil and water
4 management, integrated pest management and crop
5 management. They ensure the CCA has both a basic
6 knowledge of agronomy principles, plus a more
7 in-depth understanding of how these are applied
8 within their own region. Currently, fewer than 50
9 per cent of the candidates are actually successful
10 in completing the two exams. And after
11 certification, the CCA must continue to improve
12 their agronomy skills through a minimum of 40
13 continuing education units per two year cycle.
14 The CCA program of study recognizes that
15 agriculture affects far more than the local farm
16 or even the local region. Agriculture is
17 essential to feed the world, but a good agronomy
18 is essential to ensure that agricultural practices
19 protect the environment and the general public.

20 In preparation for the initial exams
21 and in subsequent education, the CCA program
22 considers it vital that each of these study areas
23 extend well beyond the scope of just crop
24 production inputs or sales knowledge. In each
25 case, the protection of the soil and water

1 environment is a critical component. I have
2 included in your package the performance
3 objectives related specifically to manure
4 management. But also, in addition, I would like
5 to invite you to our website, which is listed on
6 the front page I believe, to look further at the
7 performance objectives which illustrate how CCAs
8 recognize the environment on a daily basis.

9 Furthermore, I want to ensure the
10 commission that just as any other legitimate
11 professional organization, the Prairie CCA program
12 has a well-defined structure that aims to meet the
13 needs of its membership, but also the needs of its
14 clients that its members serve.

15 Before granted membership, candidates
16 must sign and agree to adhere to a comprehensive
17 code of ethics that is designed to protect the
18 public. CCAs who have had a formal complaint made
19 against them come under review of our standards
20 and ethics committee, and here disciplinary action
21 can range from censure to dismissal from the
22 program. In short, our code of ethics clearly
23 defines truthfulness as a commodity that takes
24 precedence before all others.

25 So in closing, I want to state that I

1 believe it is a benefit to everyone to have the
2 certified crop advisors remain part of the manure
3 management planning framework. Producers benefit
4 because, as stated, CCAs are often employed by
5 crop input retailers and already are fulfilling
6 many of the requirements for manure management
7 planning such as soil testing and subsequently
8 developing fertilizer recommendations. And since
9 CCAs are already highly visible within many
10 communities and are regularly used by growers to
11 assist with many crop management decisions, we are
12 well-positioned to see the broad scope and impact
13 that livestock wastes have, and can influence
14 growers to make sensible decisions when dealing
15 with this issue.

16 And finally, regulators and the
17 general public will benefit that a group such as
18 ours has been entrusted with the responsibilities
19 that a third party service provider assumes in a
20 very professional and ethical manner. And also
21 that we are armed with the skills and knowledge to
22 help preserve our environment and uphold good land
23 stewardship. Thank you.

24 THE CHAIRMAN: Thank you, Mr. Gregory.
25 Edwin?

1 MR. GREGORY: Sorry, if you have any
2 questions, I brought Walter along with me today,
3 because I am not a manure management planner.
4 Walter would certainly be able to address any
5 questions of more of a practical nature, whereas
6 I'd be happy to answer any questions about the CCA
7 program specifically.

8 THE CHAIRMAN: I think probably the
9 manure management is more in line with our
10 mandate.

11 MR. YEE: Yes, Mr. Gregory, I gather
12 the CCA program is a national program, it's right
13 across the country?

14 MR. GREGORY: It's across Canada and
15 the United States, yes.

16 MR. YEE: In particular, I might have
17 missed that, you might have said that earlier on,
18 but how many CCAs are there in Manitoba?

19 MR. GREGORY: There is approximately
20 220 in Manitoba. There's about 14,000 across
21 North America.

22 MR. YEE: Thank you.

23 THE CHAIRMAN: Wayne?

24 MR. MOTHERAL: Yes, a couple of
25 questions. In the hog industry are there many

1 CCAs, many advisors employed? I mean, how many
2 operations would you say use your services?

3 MR. GREGORY: Well, employed directly
4 by the hog industry?

5 MR. MOTHERAL: I'm just saying how
6 many individual hog barns, or hog enterprises, how
7 many in Manitoba would use the services of a crop
8 advisor?

9 MR. GREGORY: Currently, right now,
10 for as far as manure management planning goes, I
11 believe there are eight certified crop advisors
12 who are also registered manure management
13 planners. So I assume that all of those CCAs are
14 working directly with hog producers. And to say
15 how many clients each of those individuals have, I
16 wouldn't know.

17 MR. MOTHERAL: Have you ever advised
18 and failed?

19 MR. GREGORY: Well, to try is to fail
20 I guess, you know.

21 MR. MOTHERAL: Let me put it this way.
22 Is there any liability at all? Are you
23 accountable for anything like that or --

24 MR. GREGORY: Well, we are
25 accountable. We don't have a specific framework

1 within our organization that addresses financial
2 accountability. I believe that other
3 organizations such as the Manitoba Institute of
4 Agrologists do have a war chest, if you will, of
5 money to either address financial considerations
6 made by complaints against one of its members. To
7 this point, I am unaware of actually the MIA ever
8 having to pay any financial considerations for
9 actions of one of its members. Typically, in
10 agriculture, when there is a problem, it comes up
11 between the employer and the customer.

12 MR. MOTHERAL: Just one more question.
13 In your activities, do you advise mostly in
14 established operations or do you advise in ones
15 who are wanting to get into the field? You know,
16 you are advising obviously some established
17 operations, but if somebody, like if somebody like
18 myself wanted to start one, would your services be
19 available for that too, as far as going through
20 the municipal process and all that?

21 MR. ENNS: We do in both cases. A
22 producer that is already established, he's already
23 over the 300 animal units and he's there, we are
24 presently working with him, not only to achieve
25 his crop yield targets but also to make sure that

1 we are applying fertilizer accordingly. And we
2 also do work with individuals that are just
3 looking at it for the first time in their
4 industry.

5 MR. MOTHERAL: Okay. And if I was to
6 use your services, how much would it cost me?

7 MR. ENNS: That's difficult for me to
8 say exactly what it would be. It works on number
9 of animal units and it also works on land base for
10 that cost.

11 MR. MOTHERAL: You have a system.

12 MR. ENNS: I have a system in place
13 for that.

14 MR. MOTHERAL: Okay. That's all,
15 thanks.

16 THE CHAIRMAN: Walter, I didn't get
17 your last name?

18 MR. ENNS: Enns.

19 THE CHAIRMAN: Could you just, maybe
20 just tell us a bit of a story about what you would
21 do in working with a hog farmer?

22 MR. ENNS: Sure. Basically, you know,
23 everything would start right from sitting down
24 with that producer and going through what type of
25 barn that he does have, how many animals are in

1 that barn, translating it back into animal units.
2 Once we have established the animal units that are
3 there, then establishing how much manure is
4 earthen storage, or whatever facility that he has
5 that is collecting the manure that we are going to
6 end up applying to land, once we find out how much
7 manure this is, then we have to look at what land
8 is available to apply the manure on. We go
9 through a whole process of looking at the legal
10 land descriptions, considering the land, and
11 seeing, okay, which zones is it in, is it N1, N2,
12 or N3? We look at the classification of the soil
13 and then we look at the sub class, because the sub
14 classes are going to tell us how much we can apply
15 or how much we are not allowed to apply sort of
16 idea.

17 Once we have established these things,
18 then we start to look at yield goals. And the
19 yield goal that we look at, we have to make sure
20 it's a realistic yield goal. Because when we're
21 in this planning process, we want to look at
22 uptake and removal of the crop. And by doing that
23 then we can establish how much fertility that we
24 need to apply, whether it is in the form of manure
25 or else some commercial fertilizer. And it's

1 basically how the process is made.

2 There is some check-marks in place,
3 because we do have access to crop insurance
4 records to see what are the yield targets in the
5 area? Can we realistically expect them? There
6 are also check-marks in place with the Province of
7 Manitoba as far as a crop of wheat will remove
8 this many pounds of nitrogen from the soil.

9 THE CHAIRMAN: Maybe I'm
10 oversimplifying it, but you're providing technical
11 expertise that a farmer either may not have or
12 doesn't have the time to do?

13 MR. ENNS: Correct.

14 THE CHAIRMAN: Do you do this, like
15 one of you is with JRI and one with Cargill. Is
16 this what you do in your job with them or is this
17 another sideline?

18 MR. ENNS: This is what I do in my job
19 with Cargill. It's not the only duty that I have
20 but it's one of them.

21 MR. MOTHERAL: Just one more question
22 here. When you describe some of the work you do,
23 to me it seems as though some of your duties may
24 overlap with a technical review committee. You
25 know, if you're saying what kind of soils there

1 are, and what is this and that, isn't that
2 sometimes a job with the technical review
3 committee? Of course, that's in the planning
4 process, but this is for the individuals. Okay.
5 I'm answering my own question.

6 THE CHAIRMAN: That's the best kind.
7 Thank you very much, gentlemen.

8 MR. GREGORY: Thank you very much for
9 your time.

10 MR. ENNS: Thank you.

11 THE CHAIRMAN: Next is Hytek.
12 Gentlemen, please introduce yourselves for the
13 record.

14 MR. VIELFAUVE: Denis Vielfaue.

15 MR. STOTT: Sheldon Stott.

16 DENIS VIELFAUVE and SHELDON STOTT, first being
17 sworn, presented as follows:

18 MR. VIELFAUVE: Mr. Chairman, panel
19 members and ladies and gentlemen, I'll just start
20 by saying I was raised in a French family, I went
21 to a French school, I had a great English teacher,
22 she taught me all the English words, but I only
23 learned to pronounce about 85 per cent of them, so
24 please be patient.

25 THE CHAIRMAN: It sounds pretty good

1 to me. It is better than my French.

2 MR. VIELFAUVE: Just our presentation
3 today, just the overview, it will be in three
4 parts. I'll start with the introduction. Most of
5 the subject matter will be in what we call the
6 Hytek scorecard, which Sheldon will present, and
7 then I'll finish with the conclusion.

8 Just a quick background who Hytek is.
9 From 1994, the Vielfaue and Janzen family united
10 to align our interests. We are both farm
11 families. We have had profitable and sustainable
12 growth from 4,000 sows in 1993 to 57,000 sows
13 currently.

14 Today Hytek employs over 450 people
15 with operations in three different countries. And
16 the keys to our success has been the people we
17 have surrounded ourselves with, the positive
18 working relationships and communication with
19 government, non-government and communities that we
20 operate in, and ongoing commitment to turning
21 challenges into opportunities.

22 Just, I want to show you a little bit
23 of economics. We have chosen an example here of
24 the economic impact in the Manitoba landscape. We
25 chose the RM of La Broquerie. You can see to the

1 left of the chart is the farm types, and
2 afterwards the inventory, the costs of the
3 facilities. In the RM of La Broquerie, we spent
4 over \$68 million in capital since 1994. We
5 contribute over \$400,000 annually to the municipal
6 tax base. That was in 2006. We have over 240
7 direct jobs in the RM of La Broquerie. Our annual
8 salaries are over 4.8 million in the RM of La
9 Broquerie. And the rule of thumb that Manitoba
10 Pork uses is that for one direct farm job there is
11 a multiplier of six for off-farm jobs. That's
12 within Manitoba.

13 Just the recent 2006 census showed
14 over 26 per cent growth in the RM of La Broquerie,
15 just to further emphasize that hogs and people can
16 work together. There was a study done in 2004 by
17 Royal LePage. It's the impact of ILOs on Manitoba
18 rural residential properties, and they did five
19 case studies. And I just want to, on the
20 conclusion here -- I believe you were given the
21 report from Royal LePage -- just to quote the
22 conclusions. What is significant, however, is the
23 fact that the house prices within one or two miles
24 proximity hog ILOs are not significantly different
25 from prices at four to five miles distance. When

1 land values are observed, the data strongly
2 suggests that land prices within the case study
3 areas generally increased in close proximity to
4 hog ILOs. One possible reason could be the
5 greater access for manure for injection on to
6 neighboring fields. Overall, the data analyzed in
7 the case study areas fails to support the notion
8 that the presence of hog ILOs are detrimental to
9 surrounding real estate values.

10 Moving on, just at the first meeting
11 in Winnipeg at the CEC presentations, one of the
12 special interest groups was showing some video
13 pictures. We recognized some of these pictures
14 being some of our farms. Just the quote here from
15 Mr. Koroluk is that this one is interesting
16 because it is June and there is standing water all
17 over the place and the lagoon is empty already, or
18 near empty. So we know the manure has gone into
19 the fields. Glen Koroluk, CEC, March 5th. Just
20 to show this is the lagoon here. This particular
21 farm has a lagoon designed for 800 days worth of
22 storage, and the lagoon was only actually emptied
23 in August 2002 when conditions were appropriate
24 for application.

25 Another fact, all Manitoba lagoons are

1 designed for 400 day storage, not including
2 freeboard, to allow adequate storage through
3 catastrophic rainfall events such as this one.

4 The next picture shows the same farm,
5 again, the month of June of a different year of
6 which, as you can see, is more of its normal
7 operating state. So the next few pictures were
8 also presented at the first meeting. Just to show
9 you that barring annual rainfalls and catastrophic
10 events, this is what we see on the landscape, and
11 it's frustrating for us in the hog industry when
12 misrepresentation is done to the general public.

13 At today's presentation, for
14 ourselves, our goals and objectives is to educate
15 the CEC members and government on how we manage
16 our farms day-to-day. This is important. We just
17 wanted to come back to grassroots on what we do on
18 a day-to-day basis. We want to demonstrate
19 current best management practices that we utilize.
20 We want to demonstrate achievements, shortcomings
21 of current practices. We want to highlight areas
22 of strengths and weaknesses where continued
23 research and development is required, and indicate
24 potential solutions and timelines required from
25 Hytek's perspective.

1 I'd like to pass it on to Sheldon at
2 this point.

3 MR. STOTT: Good morning. Can you
4 hear me okay?

5 THE CHAIRMAN: Absolutely.

6 MR. STOTT: I'm going to work off of
7 my screen here because it's a little bit
8 uncomfortable to turn, and I apologize for a
9 couple of slides, I will turn and have my back to
10 you. I just wanted to go over with you, first
11 just highlighting a slide here showing the scope
12 items as detailed by the CEC scoping hearings,
13 three throughout the province. I think you've
14 seen these before so we won't list them off for
15 you.

16 Basically, I just want to give you a
17 brief overview of the Hytek scope analysis
18 framework or the scorecard that we like to call
19 it, and how we put this together to analyze
20 different scope issues. Basically, we develop a
21 matrix with the scope issues on the left-hand side
22 of the screen. We took five different areas
23 within those scoping items. One is the process,
24 which is a description of what we do on the farm
25 today to address the scoping issue; the resources

1 or the personnel that we commit to managing the
2 process; the technology, it's just the equipment
3 and technology we use to assist in managing that
4 process, and we like to focus on the more advanced
5 technology in some of the BMPs that are utilized.
6 Regulation is essentially just that, just the
7 regulatory acts and regulations that are governing
8 the process, as well as some of Hytek's internal
9 policies with relation to the process, some
10 additional parameters that Hytek management has
11 set out that we deem important with regards to the
12 different scope issues. And basically our actions
13 and descriptions, just for room, was just a
14 further description of what the current practices
15 are.

16 When we get to the second portion, we
17 take the same five items that we analyzed and we
18 tried to pinpoint where we saw some issues with
19 regards to those different processes, resources,
20 technology, regulations, and our own internal
21 policies, we looked at ourselves as well. We also
22 detailed the results and solutions, results of
23 either A, our current practices, or solutions or
24 potential solutions to the issues that we have
25 identified, as well as some timelines for,

1 timelines that we felt were appropriate to come to
2 resolution of some of the issues.

3 In the timelines, I broke it out into
4 six different categories on the overheads, but
5 with the sheets that the CEC members have, I have
6 a more detailed description of exact times that we
7 recommend. But the six different categories,
8 basically being current, what is currently being
9 practiced today. Immediate is something that we
10 felt needed to be implemented immediately.

11 Short-term solutions, one to five years for
12 implementation; medium term, five to 10;
13 long-term, 10 plus years. You'll see one unknown
14 there, and that is to do with the water
15 stewardship's nutrient management regulations,
16 because it is very unknown and I didn't want to
17 speculate as to when that was going to be
18 introduced and passed as regulation.

19 So I'll move right into the bulk of
20 it. There is quite a bit of material to cover
21 here. As you can see, it's a fairly complex issue.
22 This is just a snapshot of our matrix with regards
23 to nutrient management scope issue. It's a little
24 clearer on the second handout that we gave you
25 with the excel spreadsheet files. And just in the

1 interests of time, we are not going to grind down
2 on all of the details. I can see a big smile on
3 Mr. Sargeant's face there. And we'll highlight a
4 few key areas that we wanted to mention, and we
5 encourage the committee members to go through,
6 thoroughly through the rest of the documentation.
7 And if you have any questions, or we'd like to
8 open up the opportunity for you to contact us at
9 any time, even following this meeting today, and
10 we can go through in detail all of the different
11 areas that we've highlighted.

12 Nutrient management, here are some of
13 our key points. One, we wanted to focus, to
14 highlight our internal policy, one specifically
15 regarding to our manure management plans.

16 Currently, Hytek performs manure management plans
17 for all of our operations regardless of size, 300
18 animal units or more, as well as 300 animal units
19 and less. We feel it's important that we manage
20 all of our operations the same, regardless of
21 regulation, and this is important to us and we are
22 committed to continuing this process into the
23 future, regardless of the regulatory threshold
24 limits.

25 Two, I just wanted to indicate some of

1 the resources that we commit to the process. We
2 feel it's extremely important to us to manage this
3 process correctly. As you can see, we have six
4 people that dedicate a significant amount of their
5 time to that, two of which are required to be
6 either P.Ag's or CCAs so as to be certified, be
7 able to be certified manure management planners.

8 Some of the issues with regard to the
9 nutrient management side, and I'll highlight the
10 Manitoba Livestock Manure and Mortalities
11 Management Regulation. In general, the regulation
12 has been good, but since its inception in 1998,
13 the regulation has been in a consistent and
14 constant state of change. I can point to four
15 significant regulatory changes that have taken
16 place in less than nine years. It's been a
17 challenge for producers and ourselves alike to
18 stay abreast of these changes and to be able to
19 implement changes on the farm to counteract the
20 regulatory shifts that have occurred. It's also
21 difficult for government to gauge the regulatory
22 success with the changes that they have
23 implemented. To see some change on the landscape
24 and change on the way that we're managing
25 nutrients, you have to work with the process for

1 longer than a year before shifting and changing
2 the way that producers are applying manure on the
3 land. It's our belief that we should turn back to
4 the five year sunset clause, so to speak, that's
5 written in the regulation, which is the time
6 period that's set out for actual regulatory
7 review.

8 Here is just a quick snapshot again of
9 our matrix with regard to manure management, and
10 I'll just quickly pick out some of our key points.
11 One, starting on Hytek internal policies. We've
12 got a policy internally that we will inject manure
13 wherever it's applicable on our farms. That's
14 quite important to us to conserve nitrogen and
15 maximize our N to P ratios. Hytek manure
16 applicators are required to utilize GPS technology
17 with their application activities. That's a
18 requirement we have internally for our own
19 internal pumping system. We own a company called
20 Highline Pumping that does a majority of manure
21 pumping for ourselves, but as well with our custom
22 applicators we require that they utilize this
23 technology when doing work for Hytek. On field
24 manure testing is a requirement. We don't like to
25 work off historical data, we encourage and enforce

1 that our applicators utilize Nova Meters, as well
2 as constant laboratory analysis, not only to give
3 us historical data, but as well as to gauge our
4 Nova Meters effectiveness. And we have a minimum
5 requirement of one Highline staff person to be a
6 member of our Hytec Limited workplace health and
7 safety committee, and just to protect the
8 workplace, the health and safety of our workers
9 within that very individual, unique portion of our
10 business.

11 THE CHAIRMAN: What's a Highline staff
12 person? What's Highline?

13 MR. STOTT: Highline Pumping is our
14 pumping company. It's very unique to our company
15 and that is why we felt it's important that one
16 member be there at all times.

17 Some issues that we have with regards
18 to the manure management process would be with
19 regards to the Manitoba Conservation auditing
20 process. Currently, Manitoba Conservation is
21 committed to auditing at minimum 10 per cent of
22 all manure management plans submitted to their
23 department annually. It's important to ourselves
24 as an industry and to producers that this process
25 is done thoroughly and effectively. It supports

1 transparency, it encourages accountability, and
2 provides confidence to the general public that
3 we're doing our job correctly on the landscape,
4 showing that our auditing process is thoroughly
5 done. I think we'll provide confidence that we
6 are not actually dumping nutrients on the
7 landscape but we are managing this process
8 effectively.

9 It's important that Manitoba
10 Conservation, the Government of Manitoba commit
11 more resources towards auditing process so they
12 can fulfill their commitment of completing the 10
13 per cent auditing process.

14 Here I just wanted to give you a
15 quick synopsis of our manure nutrient management
16 process. It's just a brief overview. There's a
17 lot more background information that we gather, as
18 well as behind the scenes things that we do for
19 this process. But I'll just give you a quick run
20 through.

21 First, this is just for one
22 application incident or one application season.
23 This will be done multiple times on the same farms
24 and for multiple farms throughout the year. One
25 is just the initial filing of our manure

1 management plan. It just gives our site
2 background information, number of animals,
3 estimated nutrient content, all that background
4 data. Two, we calculate our estimated volumes and
5 nutrient concentrations. Three, we utilize our
6 nutrient concentrations versus the volume to
7 establish the land base that we'll require for
8 spreading. Four, we identify our spread fields
9 and initiate our landowner contacts, as well as
10 identify landowners' cropping intentions. Five,
11 we soil sample the fields that we are intending on
12 applying, utilizing our GPS sample locations, I'll
13 get into that a little later. Six, we receive our
14 soil test results. We take these results, test
15 them first back to residual allowable limits, and
16 then two, back to our previous soil test results
17 to gauge whether there has been accumulations of
18 different nutrients over the years, and see if we
19 need to mitigate or deviate from our initial
20 application plans. Seven, calculation of our
21 application rate based on expected yields. And as
22 previously mentioned, those expected yields have
23 to be realistic, utilizing crop insurance data,
24 producer experiences, and just overall regional
25 average yields.

1 We input all this relevant information
2 into manure management plan file or software that
3 Manitoba Conservation has developed, including the
4 actual soil test results. As part of Hytek's
5 internal policies, all these plans are approved by
6 a certified manure management planner. This isn't
7 currently a requirement under the regulation, as
8 we are an owner/operator, we aren't required to
9 have a certified planner do these plans, but we
10 felt this is an important part of our business and
11 we wanted to commit the appropriate educational
12 resources towards this plan. Ten, we file the
13 plan with Manitoba Conservation with anticipated
14 spreading dates. Eleven, we develop a work order
15 for our applicators and we do the scheduling of
16 the application. I'll get into that a little bit
17 later. Twelve is the actual application utilizing
18 GPS. Concurrently, during that process, there is
19 the manure nutrient analysis, as I previously
20 mentioned, as well as the laboratory analysis.
21 Thirteen, we collect our flow and GPS data and
22 combine that into 14, where we develop our as
23 applied map, which I'll show you in just a second.
24 Fifteen, we file our manure management plan
25 confirmations which indicate the volume that we

1 applied, the fields that we used, the dates that
2 they were applied, as well as temperature and
3 precipitation conditions. Sixteen is an important
4 process that a lot of people forget in the whole
5 manure management cycle, is that there's crop
6 production and harvesting. We are applying
7 nutrients to a crop to fertilize it for growth.
8 It's harvested for food. A lot of people lose
9 that and believe we are just dumping it on the
10 land, and that is not in fact the case. And 17,
11 and I highlighted this, this is the final part of
12 the process is the Manitoba Conservation on-field
13 auditing process, where they audit us for residual
14 soil nitrate and now phosphorous levels to
15 establish whether or not we are fertilizing to
16 realistic crop uptake.

17 Here is just a quick example of some
18 of the technology that we're utilizing. This is
19 our geographic information system, or GIS, and
20 I'll just try to point out a couple of things and
21 try to stay close to the mike at the same time.
22 Here is just an identifier of our fields. We
23 utilize this to calculate our field sizes. You
24 can see, it's hard, it's small print, but this is
25 our field I.D.'s. We also indicate what our crop

1 production system is. This happens to be a grass
2 hay field. We also utilize this to establish what
3 our soil capability classes are, which is a
4 limitation for our application rates. You can
5 also see, here is a picture of one of our
6 operations. This is a good picture because you
7 can actually identify our lagoon here. You can
8 see the primary cell. This happens to be a two
9 cell lagoon. And that's an important thing for us
10 to note, a big part of our production practices
11 with our manure management is that we utilize
12 multi-cell lagoons on most, if not all of our
13 operations. There are some older operations that
14 are single cells, but for the most part, we'll use
15 primary, secondary, and in a lot of cases tertiary
16 cells to concentrate our solids so we can
17 segregate our waste streams into nutrient rich,
18 phosphorus rich solid portions, lesser rich ones
19 in the secondaries, and least rich in more liquid,
20 more watery third cell.

21 Here is just a quick snapshot of our
22 application work orders that we deliver to our
23 on-field applicators. You can see those, the
24 white points that are indicated are our actual
25 GPS soil sample locations. They are date-stamped.

1 And those sample locations, we revisit annually.
2 It takes out some of the in-field variability for
3 us so that we have some fairly consistent results
4 going over time, so we can do some fairly accurate
5 comparisons over whether we have nutrient
6 accumulations over time. Also you can see we
7 indicate the field to be applied, our application
8 rates, here it's based on pounds per acre. We
9 also indicate the cell to be applied to the
10 individual fields. That indication is based on
11 the residual phosphorus limits in the soil. The
12 areas with higher residual phosphorus, not
13 requiring additional phosphorus, will get
14 secondary tertiary cell manures, whereas those
15 that are phos deficient, we will apply our primary
16 cell.

17 And just some basic other background
18 information. You can also notice our Nova meter
19 and imperial gallons per acre. This is to track
20 what the nutrient changes are happening over time
21 from the applicator, as well as the adjustments
22 made to the application rate based on those
23 nutrient changes.

24 Here is just a quick snapshot example
25 of what one of our as applied maps looks like.

1 I'll just point out a couple of quick things here.
2 You can see all these dots in diagonal spread
3 patterns. These dots all represent GPS locations
4 with flow meter rate tied to those dots. And it's
5 indicated, our different flows are indicated with
6 the different colours, with the blue here being
7 3,000 to 4,000 gallons per acre, ranging all the
8 way up the spectrum. You can kind of see the
9 different application. Our average application
10 rate here is looking like it's about 8 to
11 9,000 gallons per acre. And you can also see
12 where the different nutrient tests took place.
13 And as the nutrient levels and concentrations
14 within the manure changed, the application rate
15 also subsequently changed to better meet the crop
16 requirements of those different fields. Some of
17 our data gathering, total gallons applied, some
18 internal costing information, our start date,
19 completion date, our temperature range within the
20 application timing, precipitation, and we just
21 have some general field notes if anything happened
22 or occurred.

23 Now, this slide here doesn't represent
24 a specific scope item but it was something that
25 was, that's kind of near and dear to my heart and

1 to Hytek's, and we felt it important enough to
2 deem it a slide of its own, and it's more on our
3 nutrient management side and it is our feeding
4 strategies.

5 Just to give you some key points on
6 feeding strategy. Current practice, we use phase
7 feeding and split sex feeding throughout our
8 production cycle, or system. This is to better
9 meet animal nutrient requirements based on animal
10 age and size class, as well as animal sex -- there
11 is different nutrient requirements for the
12 different sexes of animals as well -- to limit the
13 amount of over nutrient within the feed so that we
14 can limit the nutrient output. We utilize phytase
15 in all of our rations within Hytek, and I believe
16 since 2002 this has been the case. We are
17 estimating we have achieved approximately a 30 to
18 40 per cent total P reduction in the manure due
19 just to the utilization of phytase.

20 Some issues, this is a bit of a pet
21 peeve of mine, the CFIA Animal Feed Act in table
22 4. Table 4 basically dictates what the minimum
23 phosphorus requirements need to be within animal
24 feeds, commercial animal feeds given to different
25 animal classes. And basically what table 4 is

1 indicating is the total phosphorus that any
2 producer needs to apply within their feed to meet
3 animal nutrient requirements. Now, it's limiting
4 the benefit that we can utilize, the benefit that
5 we are getting from utilizing phytase as it has
6 not been adjusted for some 20, 20 some years.
7 Since the implementation of phytase and the
8 technology used to make this feed, we haven't been
9 able to adjust down our total phosphorus levels to
10 levels that are acceptable with the use of phytase
11 and the improved uptake of the phosphorous by the
12 animal with use of that enzyme.

13 So one of the solutions, we definitely
14 need government assistance, more government
15 assistance in pushing this issue with CFIA. They
16 have been highly reluctant to change, open up
17 table 4, so to speak, and change the nutrient
18 requirements for the animals to account for the
19 phytase enzyme.

20 That little pet peeve of mine is the
21 Canadian Grain Commission, I was corrected on
22 this, this morning, Canadian Grain Commission
23 provides recommendation to CFIA for the licensing
24 of feed grains. And there's been a development in
25 the past couple of years of low phytate feed

1 grains. These feed grains allow for better
2 utilization by the animal of the phosphorus within
3 the grains, which would thus reduce our phosphorus
4 output because they will be more absorbed by the
5 animal. It is a costing issue as well, because we
6 could draw back on our phytase inclusion because
7 there is more available phosphorous within the
8 ration. So as a consequence, CFIA has not
9 recognized low phytate feed grains as a regular
10 grain, but they have categorized it as a novelty
11 grain. And with that categorization, we cannot
12 get a licence to grow enough to even conduct
13 feeding trials to establish the total benefit that
14 we can achieve by using this type of product. And
15 it's an important issue to us and we need
16 government's assistance to push this issue as
17 well.

18 And just kind of a finishing point
19 there, we are being regulated on phosphorus today.
20 There is tools out there such as reducing our
21 total P input within the feed with phytase, as
22 well as utilizing these new grains. We need these
23 tools in our tool box so we can manage our
24 phosphorus better.

25 Here is just another brief on our land

1 use planning and approval portion of our matrix
2 and some key points we pulled out. Current
3 practice, Hytek itself has established a strict
4 internal siting criteria which has been augmented
5 with high levels of communication and a
6 transparent development process involving all
7 levels of government from start to finish. We
8 believe transparency and good communication is the
9 key to new development success, and we have been
10 practising this for a number of years and have
11 been highly successful on that front. Some issues
12 with the land use planning and approval front is
13 conditional use hearings. These hearings can be
14 highly confrontational and emotional. And I'm
15 sure you've heard this over and over again,
16 there's a great deal of issues with the volatile
17 nature of some of these meetings. They typically
18 pit neighbours against one another. And as you've
19 been told before, many suitable developments and
20 good developments and positive moves within
21 communities have been denied due to the volatile
22 and emotional nature of these hearings.

23 Some potential solutions, the use of
24 the municipal development plan process as a basis
25 for livestock approvals, as set out in the

1 Planning Act. We believe this process, developing
2 good, solid up-front planning is the key to
3 success in developing livestock and developing any
4 industry within communities. One of the
5 solutions, or the solution that we see fit here is
6 that the Province of Manitoba needs to assist the
7 rural municipalities in completing these
8 development plans on or before the January 2008
9 deadline. The indication that we've gotten with
10 anyone that we have spoken to with this regard,
11 the development plan process seems to be stalled,
12 there doesn't seem to be a lot of activity from
13 the local municipalities in this regard, and we
14 definitely need this process to push forward.

15 And further to that, it's our belief
16 that with the use of development plans and with an
17 approved development plan that has gone for public
18 consultation, the general public has input on
19 this, we can do away with the confrontational and
20 highly volatile conditional use process
21 altogether. And when suitable developments are
22 proposed within areas zoned for that development,
23 as long as they meet the siting criteria, they
24 should be allowed to establish.

25 I also want to put a little plug in

1 here for the TRC process. And I know the TRC
2 process has been beat up a little bit back and
3 forth throughout these hearings. And in our
4 experience, we have gone through the TRC process
5 numerous times and it's been very successful for
6 us. We've been quite happy with the results,
7 positive or negative, the TRC committee are
8 bringing out the best information they have
9 available to them today. I think probably the
10 only shortcomings we can see within that process
11 is inadequate resources to do the job properly.
12 It's hard when you don't have the resources to do
13 your job properly, and you can't do ground
14 truthing and on-site visits to either quantify or
15 disqualify the information you are collecting.
16 It's pretty tough to say you're going to do the
17 thorough job that a lot of people are expecting of
18 this process. So I just wanted to throw that in
19 there.

20 Now, just in the interest of time.
21 These next few slides, I am just going to run
22 through them, just give you a quick snapshot. We
23 didn't pick any key points out. Again, we
24 encourage the CEC members to please look through
25 them in detail.

1 Odour, of course, we decided that we
2 needed to pick out a couple of key points on. One
3 that we wanted to highlight was our current
4 practices, and I'll just quickly read this off.

5 "Hytek Limited has always considered
6 the most effective nuisance odour
7 control measure is appropriate siting
8 criteria and barn and site design."

9 That's been the way that we have developed our
10 sites in the past and it is going to be the best
11 way to develop our sites in the future, is to
12 ensure that we're siting these things
13 appropriately and we are up front with our plans
14 in our planning with neighbours and local
15 communities, and that's been successful for us in
16 the past and we're going to continue to do it into
17 the future.

18 This has been very effective for us up
19 until this point, very limiting on odour related
20 complaints within our company. We have only
21 experienced a handful maybe of odour related
22 complaints in the past years, for over 35 to 45
23 operations that we operate throughout the
24 province.

25 One of our observations is that barn

1 odour is directly related to barn cleanliness.
2 And within Hytek, we have very strict policies and
3 procedures, operating procedures within our farms,
4 that ensure that the barn cleanliness and the
5 ventilations are set up to the highest standards
6 that we can achieve.

7 Again, here is just a snapshot of our
8 disease transmission portion of our matrix.
9 Climate change as well, we didn't go into detail
10 on that. And I think I just -- environmental
11 liability, I unfortunately double clicked, so we
12 skipped over that one very quickly. But it was
13 the same thing, just a brief overview.

14 I just want to quickly touch on the
15 approach taken to regulation and enforcement in
16 other jurisdictions. I know the scope item is
17 issues, the approach taken to these issues in
18 other jurisdictions, and to go through all that
19 was a great deal of grinding down, and I know that
20 you're going to be doing that with some of your
21 staff people as well. So we felt we'd just kind
22 of throw a bit of the Hytek experience.

23 We have operations currently now in
24 Manitoba, Saskatchewan and North Dakota, and we
25 use these areas that we draw from our comparison.

1 In our experience, Manitoba, of these three, has
2 the strictest regulatory environment, and we just
3 wanted to pick out some of the examples that we
4 see up on the top level there. The highest level
5 of auditing enforcement activities are the three
6 jurisdictions that we can see. Manitoba is also
7 the only jurisdiction that requires annual soil
8 test submissions prior to manure application, the
9 only jurisdiction that conducts in-field audits
10 utilizing actual soil test results to conduct
11 these audits, and the only area in Canada, and
12 this is a fairly key point, Manitoba is the only
13 area in Canada where environment officers are
14 empowered to issue tickets. That's a very
15 powerful tool that environment officers have
16 within our province. They see an issue, they can
17 issue a ticket on the spot. There's reluctance in
18 some other jurisdictions to enforce different
19 parts of regulation because of the political and
20 the loop holes that have to be gone through,
21 through the court system in order to enforce these
22 things. So this is a big bonus for Manitoba
23 livestock producers and it should be something
24 that we're proud of that we have this portion of
25 our regulation in place.

1 And now I'd like to thank you for your
2 time and I'll hand it back to Denis for some
3 conclusions.

4 THE CHAIRMAN: Can I just clarify one
5 thing before we leave? On one of the opening
6 pages, it said you operated in three countries.
7 Should that have been three jurisdictions, or do
8 you operate in another country besides Canada and
9 the States?

10 MR. STOTT: Yes.

11 THE CHAIRMAN: Okay.

12 MR. VIELFAUVE: Just quickly in
13 conclusion, I just want to highlight the fact that
14 the hog industry has a proven track record for
15 environmental stewardship. We have seen that when
16 we dealt with nitrogen, on-farm balance of
17 nitrogen has been achieved, and that was achieved
18 through some R & D, and also by adaptation of
19 technologies and innovation. So we have a track
20 record on environmental stewardship and we can use
21 the nitrogen basis going forward.

22 So now today we're dealing with
23 phosphorus, the challenge and the opportunity.
24 Today phosphorous can be looked at as a challenge
25 but I think we can turn that into an opportunity.

1 So the government was tasked, had
2 tasked what we called the phosphorus expert
3 committee. And the phosphorous expert committee
4 did come out with recommendations. They were
5 science based, they were social economics. I
6 think there is a good foundation there for some
7 policy framework going forward. The phosphorus
8 imbalance is a regional challenge, not a
9 provincial issue. We need not to blanket the
10 province with moratoriums or temporary pauses on
11 specific regional issues. Research is needed to
12 better understand nutrient transport mechanisms
13 from soil to water. We just finished a three-year
14 study in the RM of La Broquerie in partnership
15 with the U of M, and it was a multi-disciplinary
16 study. But we do understand what the source is,
17 we understand inorganic and organic nutrients. We
18 understand the receptor being the lake or rivers.
19 We need to further research the transport
20 mechanism between those. And I think that has to
21 be done in partnership with the industry, and
22 especially with government also to assist in
23 funding and partnering into this.

24 Time is the most sustainable economic
25 driver for adaptation. With time we can cost

1 effectively move and further our industry without
2 bringing cost onto it. We did it with nitrogen,
3 we need to do the same with phosphorus. When time
4 is not allocated properly, like we saw with
5 foreign exchange a couple of years ago, we see
6 exporters and manufacturers who can't adapt to
7 these changes and have severe economic hardships,
8 and some have to move away and change their
9 business drastically. So with time we can achieve
10 cost effective measures to be effective.

11 Going forward, the hog industry is
12 very vibrant, I'm sure as you've seen through your
13 travels. It's also, as you've heard, a maturing
14 industry. The sow herd has stabilized in the last
15 couple of years. The pause limits the industry's
16 flexibility to deal with the issues that are in
17 front of us. Today we have COOL, country of
18 original labeling. We have the possibility of
19 foreign animal diseases. We have market shifts
20 due to foreign exchange, ethanol processing
21 options. So we need the CEC to complete its
22 review and provide recommendations to the Minister
23 of Conservation as soon as possible. The pause
24 must be lifted so we can continue developing our
25 industry and move forward in confidence. The CEC

1 should also provide the needed confidence to the
2 general public and government that the hog
3 industry are good environmental stewards and will
4 continue to be sustainable long term. And we
5 invite you to make sure that is part of your
6 report.

7 And like Sheldon said, we do invite
8 you to further grind through our scorecard, if you
9 want to call it that, and we'd be happy to do so.
10 Thank you.

11 MR. STOTT: Thank you.

12 THE CHAIRMAN: Thank you very much,
13 gentlemen. So what is the third country?

14 MR. VIELFAUVE: China.

15 THE CHAIRMAN: Oh, okay. Your hog
16 operation, you have 57,000 sows. How many hogs do
17 you flow through in a year, or pigs, or whatever
18 we call them?

19 MR. VIELFAUVE: On a Manitoba basis,
20 in Manitoba we would raise about a million hogs.

21 THE CHAIRMAN: And how many of them
22 are raised to full slaughter size?

23 MR. VIELFAUVE: In Manitoba, we raise
24 about 650,000 to market weight, and the balance is
25 exported.

1 THE CHAIRMAN: So about two-thirds of
2 your operation is --

3 MR. VIELFAUVE: Yes.

4 THE CHAIRMAN: Now, this is
5 particularly germane to your company, given your
6 other aspirations. If there is, or if or when you
7 get a processing plant, will you increase the
8 number of hogs you raise to slaughter size?

9 MR. VIELFAUVE: That's a great
10 question. As you know in this industry, and I
11 guess Ab talked about it a bit earlier, there is a
12 ton of variables that are happening in our
13 industry right now, to predict the future is hard
14 right now. What's going to happen in the prairies
15 on processing still needs to be understood. We
16 understand some parts of it. The Saskatchewan
17 plant is going to close, the Marion plant is going
18 to close in Winnipeg, there's the variables of
19 border issues. So that's a hard question to
20 answer.

21 THE CHAIRMAN: Okay.

22 MR. VIELFAUVE: Just to add to that
23 though, in recognition of Manitoba, when we look,
24 and there was many ways to present our
25 presentation today, and one was to look at it more

1 as a political and at 50,000 feet. We chose to do
2 this. But when you look at it a little higher,
3 now, what is Manitoba's capacity? And you know,
4 you've seen all the reports, the environmental,
5 the examination of the hog industry report that's
6 been done, and that's where the numbers, we always
7 come back with the one and a half per cent, that's
8 where we take the numbers from. And I think we
9 need to understand Manitoba's capacity. And when
10 we look at Manitoba's capacity, you know, there's
11 less than 20 per cent of the fields that are
12 manure. So then where do you go from there?
13 Okay. To me, that's the box we have to operate
14 within.

15 THE CHAIRMAN: So what is -- is there
16 a cap on the number of pigs that could be raised
17 in Manitoba?

18 MR. VIELFAUVE: I think all the rest
19 of the variables will decipher that by itself.
20 Can you put a cap on how many furniture
21 manufacturers we should have in Manitoba? I think
22 the economic drivers --

23 THE CHAIRMAN: The market.

24 MR. VIELFAUVE: -- the environmental
25 sustainability, the laws, those will all be

1 factors that come into play.

2 THE CHAIRMAN: Mr. Vielfaue, you said
3 phosphorous is a regional challenge, not
4 provincial. Can you expand on that or explain
5 just what you mean?

6 MR. VIELFAUVE: I think the government
7 has already identified the southeast as a special
8 management area. You know, when we go more into
9 the central, western areas, northern areas, those
10 areas have now been recognized as such. And
11 that's a broad statement, the regional imbalance,
12 as you've heard Marg Rempel and you have heard
13 other producers today who have excess land base,
14 that's the difference there. But when I see
15 regional, that is at 40,000 feet. I don't think
16 we should blanket the whole industry with a pause
17 or what's happened here because of certain things
18 that happened regionally.

19 And just further to that, I guess, is
20 the issues we have had is we've seen a lot of
21 growth in the industry, and a lot of the industry
22 grew with the current regulations of the time,
23 which was nitrogen based. So operations were set
24 up in areas, but they have the exact amount of
25 spread fields required to deal with nitrogen. So

1 now as we move forward, we need to adjust how
2 these borders are set around these farms.

3 THE CHAIRMAN: And I can assure you
4 that your final statement is our ultimate goal.
5 Whether or not we can do that remains to be seen.

6 Edwin?

7 MR. YEE: I just have a few questions
8 for clarification. Under your manure management
9 key points, you indicated manure is injected where
10 applicable. The applicability relates to solid or
11 liquid, or is there other factors?

12 MR. STOTT: Mostly relates to land
13 conditioning and has relation to stone, where
14 there's limitation with stone there's a bit too
15 much damage on equipment, we still attempt to
16 inject but it won't be truly incorporated. We'll
17 lift the injectors to just break the surface if
18 need be. But it's hard, on some of these land
19 bases there's productive land, they are good for
20 forage production but not so good for cultivation.

21 MR. YEE: And in terms of your
22 on-field testing, you have also mentioned, you
23 talk about continuous laboratory analysis. Can
24 you explain what you mean by that?

25 MR. STOTT: It doesn't mean that

1 continuously we're doing it with the lab, but as
2 we pump out, we're continuously taking samples.
3 And those samples are, one, they are on-field
4 tested and those on-field test results are
5 documented, and then we submit those tests to the
6 lab for full analysis, one, so we have our data
7 base, and two, so we can calibrate our on-field
8 tester so we can ensure it's hitting the mark, so
9 to speak.

10 MR. YEE: And that frequency is once
11 per year, as required? Is there a particular
12 frequency in terms of testing, you do it once per
13 year?

14 MR. STOTT: No, we do multiple, it's
15 more of a volume adjustment, and pretty much
16 regardless of the size of operation, we will do
17 minimum two samples per lagoon. But the larger
18 the operation, the more samples. I mean, we've
19 had some this last year where we were actually
20 trying to calibrate what our nutrient changes
21 were, and we took samples every 250,000 gallons,
22 which is a high frequency, in the laboratory and
23 we will analyze those to establish where our
24 fluctuations have taken place so we can better
25 understand our changes over time.

1 MR. YEE: And under your land use
2 planning and approval key points, you mentioned
3 Hytek has developed strict internal siting
4 criteria. What specifically would that criteria
5 involve?

6 MR. VIELFAUVE: Today there is the
7 guidelines on where, and how many residences, and
8 X amount of area and so on and so forth. We've
9 been invited to many areas to go develop, and the
10 point being that sometimes, even though it's
11 within the provincial guidelines, we have not
12 developed on some sites because we felt there was
13 too many residences nearby.

14 MR. YEE: And I guess also related on
15 that in terms of the odour management, you
16 mentioned that ventilation has to be up to Hytek
17 standards. Is there a particular standard you
18 have in terms of ventilation?

19 MR. VIELFAUVE: Yes, the standard we
20 have, and we have specifically a person assigned
21 to that to make sure that each farm is calibrated
22 minimum annually, the ventilation. You can set
23 these ventilation systems up, and if you don't
24 give them attention, they might not be operating
25 to their peak efficiency.

1 MR. YEE: Is that based on air
2 exchanges per hour or on the number of --

3 MR. VIELFAUVE: There's a number of
4 factors, yes.

5 MR. STOTT: Further to that, we do
6 meter our gas levels within our operations to
7 ensure that they are within acceptable standards
8 for ourselves and for the animals to ensure that
9 the best health is protected for our workers and
10 our staff.

11 MR. YEE: On that point, are there
12 specific parameters you analyze for air quality
13 within the barns?

14 MR. STOTT: Off the top of my head, I
15 do know that there's H₂S, methane, carbon monoxide
16 I believe is another, as well as ammonia
17 emissions. I think those are the four parameters
18 that we focus on.

19 MR. YEE: Okay, thank you.

20 THE CHAIRMAN: Wayne?

21 MR. MOTHERAL: Thank you. Just on the
22 soil testing, when you made a statement that you
23 use on-field, and you have the full laboratory
24 analysis, how close are they? How accurate is the
25 on-field analysis?

1 MR. STOTT: That manure testing you
2 mean?

3 MR. MOTHERAL: I guess so, yes.

4 MR. STOTT: It varies. Typically we
5 have been within five to 10 per cent of actual,
6 but there are some estimations that we have to
7 make as well as with regards to organics within.
8 On-field tests only tests the ammonia portion of
9 the manure and it doesn't give us any estimation
10 of the total organic end, which we have to account
11 for at least 25 per cent of that, which is the
12 plant available the first year. For the most
13 part, it's been relatively accurate depending on
14 solids content within the manure. The greater the
15 solids content, the less accurate the number
16 becomes.

17 MR. MOTHERAL: It's a tool you use and
18 you eventually do fully analyze it?

19 MR. STOTT: Absolutely.

20 MR. MOTHERAL: Getting back to the
21 development plans, municipal development plans,
22 and of course we know with the new planning act
23 the municipalities must, I think they've got to
24 2008, I believe it is, to come up with livestock
25 operating policy. When you said you wanted

1 government assistance, did you mean financially?

2 MR. STOTT: Assistance might be the
3 wrong word. Encouragement, technical assistance,
4 provide some resources so that they can adequately
5 perform the task of putting together these
6 development plans and more of a, I guess it would
7 be a forceful encouragement to have them completed
8 for this deadline.

9 MR. MOTHERAL: And I know that we've
10 heard this before in our other areas in the
11 province where many municipalities right now are
12 reluctant to go on with this right now because of
13 this committee's report and also the moratorium at
14 that time. So you asked for a speedy resolve to
15 this, obviously you know it's going to take until
16 at least the end of the year.

17 MR. VIELFAUVE: Maybe you can shorten
18 your time frame.

19 MR. MOTHERAL: I think that's probably
20 all I have. I know in a way it is frustrating,
21 because I know we heard from Mr. Cavers last night
22 with the RM of Hanover, how they won an award for
23 their development plan and then because of one
24 stroke of the pen on the phosphorus regulations,
25 all of a sudden it's a challenge for them now.

1 Thank you.

2 THE CHAIRMAN: Thank you very much,
3 gentlemen.

4 MR. VIELFAUVE: Thank you.

5 MR. STOTT: Thank you.

6 THE CHAIRMAN: Next is Mick
7 Hazzledyne. I'll just note that we have two more
8 presentations, so we'll continue through until
9 those are completed.

10 Introduce yourself for the record?

11 MR. HAZZLEDYNE: My name is Mick
12 Hazzledyne, I work for a company called Premiere
13 Nutrition in England, and we also have a company
14 here called Nutrition Partners based in Airdrie in
15 Alberta.

16 MIKE HAZZLEDYNE, first being sworn, presented as
17 follows:

18 THE CHAIRMAN: Go ahead, sir.

19 MR. HAZZLEDYNE: Good morning
20 everybody. My job is as a pig nutritionist. I've
21 been operating in Europe now for about 30 years,
22 and I was one of the authors of the U.K. standards
23 where we revised our pig feeding standards to try
24 and reduce phosphate and nitrogen output.

25 This short presentation is about 10 or

1 12 slides, which is really just looking at some of
2 the new nutrition. Some of this has been applied
3 in Canada. Quite a lot of it, I think, probably
4 hasn't at the moment.

5 So really the brief presentation is
6 about nutrient management. And from a
7 nutritionist's perspective then for successful
8 feed formulation, we need two things. We need to
9 know the nutrient requirements for hogs at various
10 ages, and we need to know the nutrient content of
11 all the feed stuffs that we handle. So it's quite
12 straightforward.

13 We can then formulate the feeds and
14 ration pigs to meet the nutrient requirements
15 accurately, whilst minimizing their environmental
16 impact. And obviously that last bit is why we're
17 here today.

18 The one thing I want to say is this
19 science is now very well developed. We know a lot
20 about nitrogen requirement, nitrogen excretion,
21 and we know a lot about phosphate. Most of this
22 is in the public domain as well, it's published.

23 I think there is a debate still, not
24 just in Canada but throughout Europe, as to how
25 much of this technology, how much of the latest

1 nutrition is actually reaching the farm.

2 So if I can start with phosphorous,
3 digestible phosphorus, we've heard a little bit
4 about phytase a few minutes ago in the Hytec
5 presentation, but the digestibility of the
6 phosphorous in our plant sources is limited
7 because of phytic acid. This is a big molecule
8 which effectively kylates the phosphorus and
9 kylates the phytase. And we can get rid of most
10 of this phytic acid using this enzyme phytase. I
11 would say in Northern Europe, the vast majority of
12 feed was treated with phytase for the last seven
13 or eight years. The other advantage is that the
14 economics are favourable of using phytase, so
15 there's really no reason not to do it.

16 The other thing that's happened more
17 recently in Europe, there are a number of mineral
18 phosphorus sources that we can use, and there has
19 been a change. We've tended to use dicalcium
20 phosphate and that's moved across now to
21 monocalcium phosphate. As we will see in a
22 minute, the reason for that is that the
23 digestibility of the phosphorus in the monocalcium
24 phosphate is higher.

25 So there is a list, this is published

1 data, I think this particular table is from the
2 Netherlands, that looks at the digestibility of
3 the phosphorus in all of the raw materials that we
4 handle. You will see there that the dicalcium
5 phosphate I just mentioned with a 72 per cent
6 digestibility, and monocalcium phosphate towards
7 the top at 90 per cent digestibility, hence the
8 move towards that commodity. But that's the range
9 of digestibility that we see in our commodities
10 before we add phytase to the feed.

11 One confusion I think there is, there
12 are different systems for the determination of
13 digestible phosphorus, and it does lead to
14 confusion. I think there's a European model,
15 there's an American model, and sometimes Canada
16 falls a little bit in between. The available
17 phosphorus tends to be an old system. It was used
18 in Europe, it is still used in parts of America,
19 and it's now been replaced by this digestibility
20 figure. Again, there has been really very large
21 amounts of money spent developing that
22 digestibility system in the Netherlands and in
23 France.

24 We prefer the digestible phosphorus
25 system because we believe it's more accurate. But

1 as I say, some nutritionists, I think some
2 companies are getting the two confused. The
3 result of that is there's more phosphorus in the
4 feed than there needs to be. So I think there is
5 a need for some clarity sometimes on
6 recommendations. Many people tend to have them as
7 almost synonymous, digestible phosphorus and
8 available, and they are not.

9 Digestible phosphorus requirements of
10 pigs, again, very well published, a lot of money
11 spent on this. This particular example is for
12 U.K. conditions, so please don't take it away as
13 being specific to your pigs, because we have bore
14 pigs, not castrated pigs, and we have lower feed
15 intakes. But there are sets of equations
16 published which are robust which can be used in
17 Canadian conditions. And the phosphorous
18 requirement that I just, the phosphorous
19 requirement of our pigs varies with the weight of
20 the pig, the productive purpose, the growth rate,
21 the litter size, et cetera, but it can be well
22 calculated. The same on the sows.

23 So digestible phosphorus, we're trying
24 to be very accurate on this and we're effectively
25 reducing safety margins. And have we had any

1 problems in Europe as we drop to really, against
2 historic perspective, are quite ultra low
3 phosphorus levels -- have we had any problems
4 then? Not really. The first year after the
5 publication of the Dutch standards, which was
6 about eight years ago they were slightly too low
7 and had to revise their standards upwards by about
8 10 per cent, but after that no real problems.

9 Phytase, some of the early phytases
10 weren't very heat stable and that created
11 problems, if they hung around in the farm for too
12 long there is a problem. What is the quality
13 control of the feed like, is the mill getting the
14 correct recovery and variability? There have been
15 some issues of separation, particle size,
16 particularly on wet feeding type systems. You
17 have to think if you're feeding a sow herd that
18 you are gearing the digestible phosphorous
19 requirements often to the younger animal, or the
20 more productive animal, or the animal that eats
21 less feed. So you are trying to deal with
22 population which can be a little bit difficult.
23 And of course you have to know on a farm-by-farm
24 basis what the feed intake actually is, you would
25 have to give a daily supply of this digestible

1 phosphorous. But I think the overall story is
2 that really we've had very, very few problems
3 putting this digestible phosphorus system into
4 commercial practice and it has saved us money to
5 do so.

6 Simple examples, and again most of
7 this is published information, we can quite easily
8 set up spreadsheets to calculate the percentage of
9 phosphorus within a feeding regime which is
10 excreted and the per cent which is retained. One
11 thing that makes it relatively easy is that a pig
12 tends to have a fairly consistent level of
13 phosphorus within its body, as it does indeed
14 nitrogen. So if you have got hog sales off the
15 farm, you can calculate the phosphorus and the
16 nitrogen that's left the farm.

17 So just two simple examples there,
18 again more for U.K. conditions, but you can see
19 phosphorus intake on the right-hand columns there,
20 percentage retained without phytase at 36 per
21 cent, percentage retained with phytase at 43 per
22 cent in that example. But again the point is, the
23 equations are all published and they are robust.

24 Nitrogen, a similar story really to
25 phosphorus. We are trying to go from feed protein

1 further to understand the amino acid makeup. We
2 understand clearly that some of the protein within
3 the feed is indigestible and appears in the dung
4 or in the urine. And to minimize nitrogen output,
5 clearly the feeds must be formulated to the lowest
6 crude protein possible, commensurate with the
7 daily supply of balanced amino acids for that
8 productive purpose.

9 So increasingly now we formulate to a
10 much wider range of amino acid than was hitherto
11 the case. Normally, or until recently we would
12 have formulated to the first four on that table,
13 lysine, methionine, cysteine, threonine and
14 tryptophan, we now have to formulate some of the
15 others. We also understand that some of them, the
16 M plus C, the methionine plus cysteine, that is
17 the amino as that carries with it sulfur, excesses
18 of that amino acid give you more problems with
19 smell nuisance, so we can keep those to a minimum.
20 Lysine, methionine, threonine and tryptophan are
21 all commercially manufactured now so they are
22 available for us to use within our feed plants,
23 and they can be added to the feed so that we can
24 further reduce crude protein levels. The main
25 implication to that generally is it reduces soya

1 or canola inclusion. The take home message, if we
2 can reduce the protein content of our feed by 1
3 per cent, then the nitrogen excretion is reduced
4 by 10 per cent. Again, that's quite a robust rule
5 of thumb.

6 One last word, another thing that's
7 tending to happen over here at the moment is
8 historically you've used a system called
9 metabolizable energy in formulating pig feeds.
10 That overestimates the value of protein, so it's
11 the last thing really you need in an
12 environmentally based feed program. Things are
13 moving across now to net energy, a number of
14 papers presented in the last couple of years. And
15 again, this is a well tried and tested system for
16 formulating pig feeds. It works very well. And
17 the implications are that if you formulate a net
18 energy, you tend to reduce protein anyway.

19 So in the last three years we have
20 been using net energy in Canada, in Western
21 Canada, and typically just by changing the
22 formulation system it reduces protein by 1 to 2
23 per cent.

24 Again, nitrogen balance, plenty of
25 published information again, so that we can

1 calculate the percentage of nitrogen that is
2 retained or excreted from our pigs.

3 Now, this is a summary really of the
4 implications of formulating to digestible
5 phosphorus, formulating to digestible amino acids,
6 and formulating to net energy. So we've got it
7 simply described as the old system and the new
8 system. You can see some of the implications
9 there, soya level reduced from 21 per cent down to
10 13 per cent, a lot more use of these amino acids,
11 lysine, methionine, threonine, the use of phytase,
12 which I mentioned earlier on, reduced levels of
13 mono cal because of that phytase. And on the
14 right-hand side, the analysis of that feed protein
15 dropping from 19.9 to 17.2, which effectively
16 means a 27 per cent reduction in nitrogen output.
17 The phosphate output from that ration would be
18 about 30 per cent less.

19 The good news is at least with
20 commodity prices as they've been in recent years,
21 adopting these techniques actually saves you money
22 at the same time.

23 So the conclusion really is the
24 science is very well established and has been
25 widely used in Europe now for a number of years,

1 both for reductions in nitrogen and phosphate.
2 Costs of this depend on relative commodity prices
3 but recently have been favourable. The modeling
4 is pretty straightforward and the number of
5 spreadsheets exist to do that.

6 Another implication as well, a lot of
7 the -- a high percentage of the excretion of
8 nitrogen and phosphorus come from the older pigs.
9 So the presentation earlier on from Hytek where
10 they are talking about the number of rations
11 within the feeding program, and certainly at
12 heavier weights, the more feed you have, the more
13 you can reduce nitrogen and phosphate output.

14 Finally, one thing that we did within
15 the U.K. was to take this sort of presentation and
16 do a best practice booklet for the farmer, and the
17 smaller females, to try and explain the size and
18 get it across to farm level. Thank you.

19 THE CHAIRMAN: Thank you,
20 Mr. Hazzledyne. This process or technique is
21 widely used in Europe and England now?

22 MR. HAZZLEDYNE: In England, that's
23 all been used for seven or eight years I would
24 think. In Denmark, Holland, yes, it's quite
25 routine.

1 THE CHAIRMAN: How much is it used in
2 Canada?

3 MR. HAZZLEDYNE: Increasing amount in
4 the last three to four years in Western Canada,
5 but extremely variable.

6 THE CHAIRMAN: How much in Manitoba?

7 MR. HAZZLEDYNE: You'll probably have
8 to ask my colleague, but with the likes of Hytec,
9 clearly widely used. But with some of the smaller
10 producers, I think not.

11 THE CHAIRMAN: Okay. Edwin?

12 MR. YEE: I don't know if I'm
13 misunderstanding this or not, Mr. Hazzledyne, but
14 in terms of formulating, I gather from the Hytec
15 presentation there's a federal requirement for
16 phosphate levels?

17 MR. HAZZLEDYNE: Yeah.

18 MR. YEE: Is that a problem in terms
19 of formulation?

20 MR. HAZZLEDYNE: It's a problem with
21 dry sows and with pigs at heavier weights, there's
22 a minimum of .5 per cent phosphorus, which you
23 would ideally go below. And really it's a
24 nonsense of a requirement. It's meaningless now
25 that phytase is available.

1 MR. YEE: And in terms of the new
2 versus the old system, is this being adopted, do
3 you know, by Agriculture Canada, in terms of the
4 new way of calculating rather than the available,
5 the digestible phosphorus?

6 MR. HAZZLEDYNE: I'm not sure. The
7 net energy certainly has been adopted. There's
8 been some good papers from Prairie Swine Centre,
9 for instance, on the phosphorus --

10 MR. YEE: Thank you.

11 MR. MOTHERAL: My mind wanders
12 sometimes and I have to catch myself, but in
13 today's standards, of course we are trying to
14 reduce nitrogen and phosphorus output, because of
15 spreads, because of manure applications. And we
16 hear in a presentation yesterday where possibly in
17 the future it may be, the hogs may be raised to
18 produce fertilizer and pork might be a byproduct,
19 and in that case we'd be wanting to increase the
20 MP, that's where my mind was going, but in today's
21 world we are trying to reduce it. No, I don't
22 have any technical questions at all.

23 THE CHAIRMAN: I'm just curious, does
24 your company have a Manitoba branch or agent or --

25 MR. HAZZLEDYNE: We're based just

1 north of Calgary, but we have four or five
2 employees here based in Winnipeg.

3 THE CHAIRMAN: Well, thank you very
4 much for another different point of view on this
5 whole issue. Thank you for taking the time.

6 Lyle Peters. Could you introduce
7 yourself for the record, please.

8 MR. PETERS: My name is Lyle Peters.

9 LYLE PETERS, being first sworn, presented as
10 follows:

11 THE CHAIRMAN: Go ahead, sir.

12 MR. PETERS: Good morning, my name is
13 Lyle Peters. I am involved in Henervic Farms,
14 which is a true family farm located right in this
15 area. We are about 15 miles northwest of here.
16 It was started by my grandfather, and now there
17 are -- there were four brothers being involved,
18 which is my dad and two brothers and a
19 brother-in-law, and since then now there are six
20 cousins being involved. So there is now six
21 members of the third generation being involved in
22 this farm.

23 We have recently expanded to 3,400 sow
24 farrow to finish, although we do not have our own
25 nursery site, which I will get into a little bit

1 later, we are leasing a nursery site. And we have
2 the ability to finish 60,000 hogs a year and
3 that's all located in the RM of Hanover. And we
4 farm approximately 3,650 acres, of which we spread
5 all of our manure from our finishing barns,
6 although our sow barn is in a different site, so
7 that's kind of a different issue.

8 I went to school here in Steinbach and
9 graduated from high school in 2001, and then went
10 to the University of Manitoba and graduated with a
11 degree in Agri Business in 2005, and have been
12 farming with my dad and his brothers ever since.
13 The reason that this farm has had to expand so
14 much is in an effort to have the ability to have
15 six of the next generation farm. If just the four
16 brothers wanted to farm, there probably would not
17 have been as much expansion. But in an effort to
18 include more members of the third generation,
19 there is a need to expand, expand or get out sort
20 of.

21 The goal of some of this entire
22 commission here is to prove that agriculture is
23 sustainable, and we want to prove that our farm
24 can be sustainable long-term with the number of
25 pigs we have and the possibility to expand in the

1 future. Some of the cropping practices that we
2 use are advanced -- well, advanced -- crop
3 rotation in an effort to maximize our nutrients.
4 We try to spread manure for the heavy crop users
5 such as corn. We have greatly reduced some of our
6 synthetic fertilizer uses obviously due to having
7 60,000 finisher hogs here. With our manure, we
8 have very little use for fertilizer, for synthetic
9 fertilizer. We use it almost only as a starter,
10 as well as every once in awhile there are some
11 fields that we have felt are unreachable with some
12 of our manure. And this has put us less reliant
13 on fossil fuels since we use mostly our own
14 manure.

15 There is a major increase in soil
16 organic matter in our soils. We have gone from a
17 heavy to still a heavy soil, but we have much more
18 soil organic matter. We have increased many of
19 our fields from 3 to 5.5 per cent soil organic
20 matter from 1994 till 2006. That is an average
21 over our approximately 20 fields. And that, you
22 know, some of them are not quite that high, but
23 some of them are starting to get very nice and
24 high now, which is even noticeable that our soil
25 is starting to get a little bit lighter and a

1 little bit more black. We are also involved in
2 herbicide rotation in an effort to not create
3 Roundup resistant weeds.

4 We noticed that having manure now has
5 made us more available to being able to plant a
6 product like corn. With the price of nitrogen
7 right now, it would be almost impossible for us to
8 afford the fertilizer to put onto our corn crop,
9 since we are not able to produce Iowa corn crops.
10 Manitoba corn crops are obviously not as nice.
11 And since we have this much manure, we are able to
12 come up with fertility that is both cost effective
13 and very useful for some of these crops.

14 Our farms have participated in the
15 environmental farming plan program using the best
16 management practices which has been offered
17 through Manitoba Agriculture. We were one of the
18 first farms to start deep soil sampling. We
19 started that in 1994. This was in an effort to
20 find out if nutrients were actually leaching down
21 into the soil. And since then, from 1994
22 until 2003, using CESCO's (ph) information, we
23 have deep soil sampled from 0 to 10 feet, and have
24 found that in our particular soil, there is
25 virtually no leaching of nutrients at all, and not

1 a noticeable amount to know that it would be from
2 hog manure. The phosphorous for sure has not
3 moved at all. There is some nitrogen movement,
4 but nothing of significance.

5 We started, one of the first farms to
6 start injecting manure in 1997. I still remember
7 seeing the gun and having them pull out and spread
8 through the air with using the gun, and that
9 created a huge variability of nutrients in the
10 field because of being spread in the air and not
11 actually knowing what your soil is getting. So we
12 started doing some field mapping to find out what
13 kind of nutrient variability there was and have
14 started to inject manure, and tried to even out
15 our fields as best as possible using primary and
16 secondary manure in an effort to come up with a
17 more stable system.

18 We obviously are using lagoon covers.
19 We have one site that has a plastic negative
20 pressure cover, and through the environmental plan
21 offered here with the government, we are in an
22 effort to cover the other lagoon. This is a
23 wonderful thing, it increases our nitrogen from 20
24 pounds per thousand to 30 pounds per thousand.
25 There is some research out there that proves it

1 isn't quite that much, but we have found between
2 our two lagoons which are three miles apart that
3 we are actually getting ten pounds more in our
4 covered lagoon as opposed to our non-covered
5 lagoon. So that obviously greatly improves our
6 nitrogen to phosphorus ratio which makes spreading
7 manure much better, especially with the new
8 phosphorous regulations. And so then with this
9 kind of an increase and with price of nitrogen
10 right now, we have found that this is obviously a
11 very economical and environmentally friendly
12 practice.

13 Obviously we have some other
14 practices. We obviously are using phytase in our
15 feed. I won't go into the science of it because I
16 don't really know. And we try to make sure our
17 sites are very well maintained and very well mowed
18 in an effort to not give hog producers a bad image
19 in the public, try to keep them very nice, just
20 nice because lots of our sites are right along the
21 highway, so in an effort just to look like we're
22 part of the public and, you know.

23 There is also some conservation of
24 natural bush. We own some bush close to the Town
25 of Mitchell on some of our farmland and we have

1 had many opportunities to subdivide that and sell
2 that to many willing participants, but that is not
3 in our goal. We like to keep the natural bush,
4 which although it really doesn't affect, or
5 doesn't help our manure spreading at all, is just
6 one way that we like to keep our environment as
7 friendly as humanly possible.

8 So the question is, are we
9 sustainable? With the new manure regulations,
10 switching from nitrogen to phosphorus, we have had
11 to move into new land requirements that we thought
12 were unreachable before, and that has greatly
13 increased our pumping costs. We feel that our
14 pumping costs have gone almost double. We know
15 that from our 8,000 head site our pumping cost
16 used to be around \$48,000 a year, and now have
17 moved to \$78,000 a year, so that is a \$30,000
18 increase per year. And we have two sites like
19 that, so there is a direct cost of approximately
20 \$60,000 a year.

21 Also, with the new manure management
22 regulations, we have been working on getting an
23 isowean site built close to one of our other
24 sites, and we had had the land base requirement
25 for two times phosphorus removal, and got our barn

1 approved just before the moratorium was put into
2 effect. And since the moratorium was put into
3 effect they have changed Hanover to a one time
4 phosphorus removal area, and since then the lagoon
5 commission, as well as the environmental review
6 committee, has then forced us to stop our
7 proceedings since they felt that we would,
8 obviously with one time phosphorus removal, we
9 would need a lot more land or a phosphorus
10 separator. And these kind of things, as well as
11 increased pumping costs, have made this project
12 not economically possible. And so we have spent a
13 lot of time and energy and some money to get all
14 these processes pushed through, and we got stopped
15 due to the moratorium. And so that is another way
16 that some of these regulations are affecting us at
17 the family farm.

18 It is very, very difficult for us as a
19 family farm to plan ahead of time if the rules are
20 going to continue to change. We had planned with
21 the two time phosphorus removal and were able to
22 come up with the system that would effectively
23 remove all the phosphorus on two times uptake, and
24 talked to neighbours, and we're going to be giving
25 manure away so that we could have another pig

1 barn. But now with one time phosphorous removal,
2 it is almost impossible. There are too many barns
3 in our area, not enough neighbours, and we just
4 couldn't -- we wouldn't even know probably what to
5 do with all the manure.

6 Our wells are located very close to
7 our barns, and my family, as well as all the rest
8 of our families, live very close to our barns and
9 drink the water from the wells. So leaching of
10 nutrients is a very important issue to us as well.
11 Because if the nutrients are leaching, we would be
12 the first people to know because it is in our
13 well. And so we obviously do well monitoring
14 every year.

15 Our yields are increasing. How much
16 of that is genetics and how much of that is manure
17 is hard to know. But we have been increasing our
18 yields almost yearly with increased fertility,
19 soil organic matter and use of manure.

20 Conventional wisdom told us that Red
21 River clay didn't leach and we were supposed to
22 build phosphorous -- we would be my dad and my
23 uncles, probably not me -- for yield improvements,
24 and now this buildup of phosphorus that was being
25 worked on is now being a huge problem because some

1 of our fields are up above the 60 parts per
2 million threshold. Our hog production is becoming
3 more efficient, we are getting more pounds of pork
4 and more pigs out of the same barn and producing
5 the same or less amounts of manure.

6 We are also utilizing all of our
7 manure. It's going onto all of our own land, or
8 some goes onto some of the neighbours' land, and
9 is helping reduce the synthetic fertilizer that we
10 are using.

11 And we really do want to be
12 sustainable since we are hoping, since I am a
13 third generation member of the farm, we are hoping
14 to make this a fourth, fifth, sixth, whatever
15 generation farm, so the sustainability of
16 livestock in this region as well as across
17 Manitoba is very important to us.

18 We need to be sure that the
19 regulations being proposed are based on science
20 and not just public knowledge. Do we really know
21 the phosphorus threshold of the soil? Is
22 agriculture actually the major contributor to
23 water quality issues or is it just a convenient
24 target for politicians? Is it possible that
25 household products used in urban homes might

1 contribute more to the water quality issue than
2 manure injected into the soil? Is the farming
3 community being asked to shoulder more than its
4 fair share of the responsibility for the
5 environment that our urban neighbours are also
6 using as well? The consequence of increased
7 regulation to our farm are direct costs, and it is
8 becoming less likely that we will be able to
9 continue running a profitable farm that we can
10 pass down through the generations. Nobody wants
11 to be sustainable more than we do. We are
12 confident that we will be sustainable because we
13 drink the water and live on the land and want to
14 have something to pass onto our kids and grand
15 kids. Thank you.

16 THE CHAIRMAN: Thank you very much,
17 Mr. Peters. Wayne?

18 MR. MOTHERAL: Yes. Thank you very
19 much. I commend you on your presentation and also
20 on your family cooperation. It isn't very often
21 you see families get along that well together.

22 MR. PETERS: It's sometimes a
23 struggle.

24 MR. MOTHERAL: And I have down here,
25 will phosphorus change your plans? I mean,

1 obviously it has. You were telling me that at the
2 last. And you have also shown, of course, how
3 complicated farming is today. I am a farmer
4 myself. I was farming in the easy days when there
5 was no regulations.

6 This is the first time that I have
7 ever heard that nitrogen was increased when you
8 covered a lagoon. That is the first time I have
9 heard that, and I don't know why I haven't heard
10 that before. Have we heard that before?

11 THE CHAIRMAN: No. I mean, I read
12 that there was loss to the atmosphere, but I
13 didn't put it together with the cover until he put
14 it out, or noted it.

15 MR. MOTHERAL: So is this something
16 that was by accident or something that you
17 actually thought would happen?

18 MR. PETERS: We were told through our
19 planning help, through Landmark Feeds, as well as
20 other places that have helped us, and the
21 technical review committee as well informed us of
22 that. Their numbers are a little bit lower than
23 what we found. But it was forced, we were forced
24 to cover our one lagoon when we had an expansion
25 in 2002, so now we have had five years of our own

1 data of it being 10 pounds per thousand higher.

2 MR. MOTHERAL: With the increased
3 costs that you have incurred because of the
4 phosphorous regulations, do you feel strongly or
5 not strongly at all, should the government be
6 assisting you in your endeavours from now on, if
7 there's any more regulations?

8 MR. PETERS: If it would be possible
9 over time, of course we'd like government help.
10 It's just getting harder, and if we have to go to
11 single time phosphorus removal on all of our land,
12 then we will be forced to spread further and
13 further. And so as Hytec was saying, the little
14 more time we have to do that, there might be other
15 ways of reducing phosphorus through feed and other
16 things. So if there can be government help, that
17 would be very much appreciated.

18 MR. MOTHERAL: The reason I say that
19 is because it's under public pressure, and the
20 public are generally having more and more to say
21 about how food is produced. And it's that 1 or 2
22 per cent of the population that are actually
23 having to pay for this. So it's interesting to
24 know producer comments on that. Thank you.

25 THE CHAIRMAN: Edwin.

1 MR. YEE: Mr. Peters, I think my
2 question has been answered, but I appreciate your
3 presentation, and it sounds like you are very
4 adaptable and you're very optimistic, and I'm glad
5 to hear that.

6 In terms of your plans, I realize
7 because of the phosphorus reg, it's certainly put
8 a dent in your expansion plans. But given that
9 you are looking at other generations down the
10 road, I certainly hope that, you know, you will be
11 looking at other ways around it in terms of being
12 viable, and expand. And certainly there are
13 technologies to look at further phosphorus
14 reduction, and I guess there are other options
15 too. I don't know if you are looking in terms of
16 available lands in other areas?

17 MR. PETERS: Yeah. It appears, with
18 regulations that there are now, that there won't
19 be any expansion in Hanover at all. So it won't
20 be ever. So if there is more further expansion,
21 it won't be in our area, it would have to go
22 further west, I guess, to where there is more
23 available and base, which obviously isn't ideal
24 for our family, but there really isn't that much
25 we can do. Hopefully, at some point we can expand

1 for future generations, and it will probably have
2 to be further west.

3 MR. YEE: Thank you.

4 THE CHAIRMAN: Thank you very much,
5 Mr. Peters. Thank you for your presentation
6 today.

7 Now, is anybody else dying to make a
8 presentation before we adjourn? No. Well, I
9 thank you all for coming out. I thank
10 particularly the people who made presentations
11 this morning and yesterday here in Friedensfeld.
12 So we will adjourn now and reconvene Monday
13 afternoon in Virden.

14 (Hearing adjourned at 12:43 p.m.)

15

16

17

18

19

20

21

22

23

24

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE

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

Debra Kot

A	1489:13 1516:18	activity 1471:22	adjustments	agenda 1461:6,7,14
Ab 1459:15 1517:4	accordingly	1572:12	1566:21	1533:2
1517:6,9 1581:11	1504:19 1506:2	acts 1555:7	administer 1533:8	agent 1602:24
ability 1505:21	1546:1	actual 1513:8	administration	ages 1591:10
1604:2,14	account 1484:13	1515:6 1559:6	1493:9	ago 1465:12 1478:1
able 1473:12	1522:22 1569:18	1563:4,17	adopted 1474:17	1481:13 1491:20
1495:23 1497:3	1588:10	1565:24 1576:10	1602:2,7	1502:5 1503:3
1502:13 1520:5	accountability	1588:5	adopting 1599:21	1505:6 1507:7
1524:22,24	1545:2 1561:1	actually 1486:25	Adrien 1459:11	1536:11 1579:5
1530:25 1543:4	accountable	1502:9 1515:10	1461:8,10,11,15	1592:4 1595:6
1558:7,18 1569:9	1544:23,25	1516:16 1535:16	adult 1528:17	agree 1471:5
1606:5,9,11	accumulations	1540:9 1545:7	advanced 1555:4	1472:4 1480:18
1610:21 1613:8	1562:17 1566:6	1552:22 1561:6	1605:2,2	1504:21 1515:4
about 1468:13	accurate 1566:4	1565:7 1585:19	advantage 1592:13	1524:6 1529:12
1469:6,13 1473:4	1587:24 1588:13	1592:1 1595:24	advise 1545:13,14	1541:16
1474:8,14	1588:15 1593:25	1599:21 1606:20	advised 1544:17	agreed 1504:25
1476:11 1481:15	1594:24	1607:11 1608:3	advising 1539:8,19	Agri 1604:11
1483:15 1487:13	accurately 1591:15	1612:22 1614:17	1545:16	agricultural
1487:16 1495:19	accuses 1475:9	1615:22	advisor 1537:9	1502:15 1510:12
1496:9 1504:12	achieve 1474:19	adapt 1519:18,22	1544:8	1536:5 1540:18
1504:22 1510:10	1483:19 1507:5	1579:6	advisors 1538:13	agriculture 1481:14
1514:3,24,25	1545:24 1570:14	adaptable 1616:4	1542:2 1544:1,11	1495:14,24
1520:7,19 1522:6	1575:6 1579:9	adaptation 1577:18	affect 1609:4	1502:10 1533:15
1522:19 1526:22	achieved 1568:17	1578:25	affecting 1519:19	1534:4,7,8 1536:7
1528:15,24	1577:17,17	adapting 1478:19	1528:13 1610:16	1539:15,16,17
1532:12 1536:18	achievement	1493:11	affects 1540:15	1540:15,16
1543:6,20	1539:22	add 1488:11	afford 1468:24	1545:10 1602:3
1546:20 1549:23	achievements	1526:10 1581:22	1511:15,16,18	1604:22 1606:17
1567:10 1580:20	1553:20	1593:10	1606:8	1612:22
1580:24 1581:1	achieving 1476:13	added 1525:4	affordable 1475:18	Agrologists 1545:4
1581:11 1584:23	acid 1592:7,10	1527:17 1597:23	1476:7	agronomist 1539:9
1590:21,25	1597:1,10,18	addition 1468:16	afraid 1476:2	agronomist 1537:4
1591:6,20,21	acids 1597:7 1599:5	1474:8 1494:11	1529:7,8	1537:7
1592:4 1595:6,7	1599:10	1541:4	after 1465:10	agronomy 1539:3
1599:18 1600:10	acre 1566:8,19	additional 1468:11	1471:15 1475:18	1540:6,12,17
1603:15 1615:21	1567:7,11	1468:13 1555:10	1483:23 1490:11	ahead 1461:13
above 1477:4	acres 1462:2	1566:13	1490:15 1531:1	1473:23 1491:15
1612:1	1465:16 1468:3	Additionally 1493:8	1532:20 1540:10	1517:11 1525:22
abreast 1558:18	1468:10 1501:25	address 1477:20	1595:4,8	1537:17 1590:18
absent 1483:12	1604:4	1501:11 1543:4	afternoon 1617:13	1603:11 1610:19
absolute 1477:2	across 1496:8	1545:5 1554:25	afterwards 1551:2	aimed 1539:7
absolutely 1511:3	1501:21 1538:16	addressed 1502:16	again 1489:5	aims 1541:12
1511:25 1516:17	1543:13,14,20	addresses 1545:1	1490:13 1520:16	air 1474:24 1475:23
1554:5 1588:19	1592:20 1598:13	adds 1511:24	1537:19 1553:5	1482:20,22
absorbed 1570:4	1600:18 1612:16	adequate 1474:23	1559:8 1571:15	1587:1,12 1607:8
accept 1519:24	act 1462:11,11,12	1553:2	1573:23 1575:7	1607:10
1525:19	1462:13,13,16	adequately 1589:4	1593:20 1594:10	Airdrie 1590:14
acceptable 1492:15	1463:21 1568:21	adhere 1494:14	1596:6,18,22	alarm 1475:2
1538:4 1569:10	1572:1 1588:22	1509:8 1541:16	1598:4,15,24,25	Alberta 1590:15
1587:7	acted 1464:17	adhered 1463:15,16	against 1525:5	alerted 1484:4
accepted 1521:22	action 1541:20	1506:14	1530:23 1541:19	align 1550:10
access 1465:18	actions 1545:9	adjourn 1617:8,12	1545:6 1571:18	alike 1558:17
1548:3 1552:5	1555:12	adjourned 1617:14	1595:1	allocated 1579:4
accident 1614:16	actively 1534:12	adjust 1569:9	age 1568:10	allow 1477:7 1488:9
accompany 1477:8	activities 1476:11	1584:1	agencies 1492:8	1553:2 1570:1
according 1483:1	1545:13 1559:17	adjusted 1569:6	Agency 1492:14	allowable 1562:15
	1576:5	adjustment 1585:15	1507:4	allowed 1480:9

1487:17 1488:12 1512:14 1521:19 1525:13,14 1547:15 1572:24 allowing 1473:6 1535:6 allows 1493:20 almost 1472:1 1478:10 1505:5 1506:23 1522:18 1594:7 1605:9 1606:7 1609:14 1611:2,18 alone 1526:8 along 1494:25 1495:16 1525:18 1532:5 1543:2 1608:20 1613:21 already 1461:20 1488:19 1502:12 1507:17,18 1508:20 1509:22 1521:25 1523:16 1532:24 1542:5,9 1545:22,22 1552:17 1583:7 although 1464:23 1472:12 1520:24 1523:22 1603:24 1604:6 1609:4 altogether 1529:11 1572:21 always 1464:4 1466:3 1475:15 1475:23 1477:7 1500:7 1503:18 1508:14 1512:10 1534:25 1536:8 1536:11 1574:5 1582:6 amazing 1505:14 America 1492:21 1522:25 1543:21 1593:18 American 1496:24 1539:3 1593:15 amino 1597:1,7,10 1597:17,18 1599:5,10 amiss 1484:4 ammonia 1482:24 1505:19 1587:16 1588:8 among 1495:12 amount 1465:15 1473:8,12 1476:14 1490:24	1515:24 1558:4 1568:13 1583:24 1586:8 1601:3 1607:1 amounts 1475:24 1593:21 1612:5 AMP 1515:24 analysis 1515:19 1516:16 1554:17 1560:2 1563:19 1563:20 1584:23 1585:6 1587:24 1587:25 1599:14 analyze 1554:19 1585:23 1587:12 1588:18 analyzed 1552:6 1555:17 ancestors 1465:11 1536:13 animal 1462:1,15 1479:23 1480:23 1502:4,7 1506:16 1545:23 1546:9 1547:1,2 1557:18 1557:18 1568:9,9 1568:10,21,23,24 1568:25 1569:3 1569:12 1570:2,5 1579:19 1595:19 1595:20,20 animals 1476:20 1478:24 1479:15 1480:25 1483:7 1497:17 1517:22 1528:10 1546:25 1562:2 1568:12 1569:18 1587:8 Anne 1486:15,24 announced 1519:20 annual 1463:6 1484:21 1506:6 1551:7 1553:9 1576:7 annually 1506:10 1551:5 1560:23 1566:1 1586:22 another 1471:17 1473:7 1484:7,15 1501:12 1503:19 1510:11 1534:9 1548:17 1552:25 1570:25 1571:18 1577:8 1587:16 1598:6 1600:6 1603:4 1610:15 1610:25	answer 1483:4 1543:6 1581:20 answered 1470:22 1482:12 1616:2 answering 1549:5 anticipate 1527:25 anticipated 1563:13 anybody 1515:18 1529:9 1532:22 1617:7 anymore 1490:15 anyone 1539:7 1572:10 anything 1473:8 1490:17 1544:23 1567:21 anyway 1490:24 1524:5 1598:18 apart 1608:2 apartment 1479:22 apologize 1554:8 appalled 1485:1 APPEARANCES 1459:2 appears 1597:3 1616:17 applicability 1584:10 applicable 1559:13 1584:10 application 1464:11 1464:12,19 1465:8 1467:17 1468:19,20 1470:23 1471:2 1471:16 1473:2,5 1473:7 1506:14 1520:7 1524:15 1524:23 1552:24 1559:17 1561:22 1561:22 1562:20 1562:21 1563:16 1563:17 1565:4 1565:22 1566:7 1566:22 1567:9,9 1567:14,20 1576:8 applications 1463:6 1602:15 applicator 1566:21 applicators 1559:16 1559:22 1560:1 1563:15 1565:23 applied 1464:6,9 1465:2 1487:5 1489:24 1506:12 1520:10,13	1529:19 1540:7 1563:23 1564:1,2 1566:7,9,25 1567:17 1591:2 apply 1487:4 1524:14 1547:8 1547:14,15,24 1566:15 1569:2 applying 1471:12 1508:18 1546:1 1547:6 1559:2 1562:12 1564:6 appointed 1618:6 appreciate 1507:25 1509:4 1616:2 appreciated 1476:1 1615:17 approach 1479:2 1575:15,17 appropriate 1463:21 1509:1 1520:14 1552:23 1556:1 1563:11 1574:7 appropriately 1574:13 approval 1509:17 1509:20 1571:1 1571:12 1586:2 approvals 1571:25 approved 1462:20 1462:22 1463:22 1563:5 1572:17 1610:1 approximately 1493:8 1499:4 1512:6 1517:21 1518:5 1526:20 1528:25 1530:7 1538:15 1543:19 1568:17 1604:4 1605:21 1609:19 April 1458:19 1461:1 apropos 1474:12 Arborg 1531:23 area 1465:12 1499:10 1508:6 1508:17 1531:19 1531:24,24 1532:6 1534:17 1535:18,19 1536:6,8 1548:5 1576:11,13 1583:8 1586:8 1603:15 1610:4 1611:3 1616:21	areas 1496:16,18 1507:15,18 1509:1 1513:9 1523:10 1525:12 1529:16,19 1530:19 1540:22 1552:3,7 1553:21 1554:22 1557:4 1557:11 1566:12 1572:22 1575:25 1583:9,9,10,24 1586:9 1589:10 1616:16 armed 1542:21 around 1478:12,15 1481:25 1482:25 1491:4 1526:3 1536:9 1538:12 1584:2 1595:11 1609:16 1616:11 arrive 1522:15 arriving 1494:7 art 1493:19 1505:11 article 1487:13 asked 1461:17 1467:25 1482:7,9 1483:3 1509:15 1589:14 1613:3 aspect 1465:24 aspirations 1581:6 ass 1486:2 ass 1539:22 assigned 1586:20 Assiniboine 1535:15 assist 1525:2 1542:11 1555:3 1572:6 1578:22 assistance 1569:14 1569:15 1570:16 1589:1,2,3 assisting 1615:6 assume 1483:20 1484:10 1544:13 assumes 1542:19 Assurance 1492:10 assure 1477:22 1525:25 1584:3 atmosphere 1614:12 attached 1464:21 attained 1539:25 attempt 1481:10 1584:15 attended 1507:7 attention 1474:22 1510:19 1586:24
--	---	--	---	--

attribute 1492:2	1494:4	basically 1462:7	belief 1559:3	big 1510:25 1557:2
audibly 1483:21	bad 1464:17	1512:25 1525:20	1572:15	1565:10 1576:22
audience 1532:23	1608:18	1546:22 1548:1	believe 1461:19	1592:7
audit 1564:13	balance 1577:16	1554:16,20	1477:19 1478:10	bigger 1498:17
audited 1519:7	1580:24 1598:24	1555:12 1556:8	1478:20 1502:17	1529:4
auditing 1560:19,21	balanced 1597:7	1568:22,25	1507:21 1508:2	billion 1465:24
1561:4,11,13	banging 1535:23	basis 1466:8 1541:8	1508:13 1509:19	biosecure 1491:23
1564:13 1576:5	bank 1479:21	1553:18 1571:24	1509:21,24	biosecurity 1493:13
auditors 1519:8	banker 1479:21	1577:21 1580:19	1513:4,15	1494:14 1497:25
audits 1576:9,11	banks 1488:14	1595:24	1514:14 1518:15	1503:24
augmented 1571:4	1489:6	beast 1485:14	1518:17 1520:3	bird 1506:22,23
August 1552:23	bar 1494:19	beat 1573:2	1523:17 1524:2	birds 1481:11,17,22
authors 1590:22	barn 1462:20	become 1465:14	1525:15 1530:15	1483:19 1484:5
automotive 1475:12	1464:7 1469:14	1479:21 1492:6	1530:18 1538:5	1505:16 1511:1
available 1463:8	1484:3 1487:14	1511:1	1541:6 1542:1	1512:2,5
1465:21 1470:8	1488:7,13	becomes 1588:16	1544:11 1545:2	bit 1516:4 1522:5
1470:10 1513:24	1498:15,15,16	becoming 1612:2	1551:20 1564:9	1531:1,4 1539:1
1521:8 1545:19	1505:7,10,15,19	1613:8	1568:15 1571:8	1546:20 1550:22
1547:8 1570:7	1506:19,22,25	bedding 1497:17	1572:1 1587:16	1554:7 1556:20
1573:9 1588:12	1507:5 1512:1,3	before 1469:14	1588:24 1593:25	1563:16 1568:20
1593:16 1594:8	1512:13 1513:1,6	1489:13 1490:8	believed 1509:16	1573:2 1575:22
1597:22 1601:25	1513:8 1530:4	1520:4 1521:6,21	below 1601:23	1581:11 1584:14
1602:4 1606:5	1546:25 1547:1	1530:16,19,20	belt 1505:13	1591:16 1592:3
1616:16,23	1574:8,25 1575:1	1541:15,24	belts 1463:9	1593:16 1595:22
average 1480:10	1575:4 1604:6	1554:14 1559:1	Bench 1464:16	1603:25 1605:25
1562:25 1567:9	1609:25 1611:1	1571:19 1572:8	benefit 1520:10,14	1606:1 1614:22
1605:20	1612:4	1577:5 1589:10	1534:20 1542:1,3	black 1606:1
avoid 1521:9	barns 1481:24	1593:10 1609:12	1542:17 1569:4,4	blanket 1578:9
award 1589:22	1486:14 1487:21	1610:1 1614:10	1570:13	1583:16
aware 1461:20	1496:18 1502:6	1614:10 1617:8	benefiting 1507:17	blessing 1503:18
1504:17 1506:15	1506:9 1508:18	behalf 1491:18	benefits 1495:2	blinding 1482:24
1514:1 1526:16	1510:23 1513:20	1507:8 1517:14	1511:24 1536:19	blue 1567:6
1528:20	1520:8 1535:2	1522:13 1537:8	1538:23	Blumenort 1492:25
away 1469:10	1544:6 1587:13	behind 1470:9	berm 1491:4	1493:2,6 1500:11
1470:6 1488:1	1604:5 1611:2,7,8	1561:18	beset 1481:11	BMPs 1555:5
1526:13 1572:19	barring 1553:9	being 1461:11	beside 1484:15	Board 1462:13
1579:8 1594:12	base 1534:21	1473:25 1482:18	besides 1577:8	1535:25 1537:9
1610:25	1546:9 1551:6	1487:16 1488:9	best 1463:8 1474:21	body 1596:13
awhile 1605:10	1562:7 1583:13	1491:3,13	1495:20 1499:17	boggling 1489:7
a.m 1461:2 1532:14	1585:7 1609:24	1493:16 1497:15	1499:25 1518:16	boils 1510:5
1532:15	1616:23	1499:7 1501:3	1519:1,9 1529:1	bold 1482:11
	based 1500:10	1505:4 1506:12	1549:6 1553:19	bonus 1576:22
B	1501:17 1520:23	1510:2,6,6,9,12	1573:8 1574:10	booklet 1600:16
back 1465:3	1521:7,8 1524:14	1517:9 1518:18	1587:9 1600:16	booth 1482:3
1472:24 1474:4	1524:15 1525:15	1533:9,22 1534:1	1606:15 1607:15	border 1496:8
1475:14 1483:12	1525:16,16	1537:15 1549:16	Bethesda 1534:2	1497:4,6,10,20,20
1485:18 1532:18	1539:4,24	1552:14 1556:8,8	better 1487:22	1497:22 1581:19
1547:1 1553:17	1562:21 1566:8	1567:6 1570:19	1511:2,7 1512:2	borders 1584:2
1554:9 1559:3	1566:10,22	1578:18 1586:10	1550:1 1567:15	bore 1594:13
1562:15,16	1568:9 1578:5	1590:16 1594:13	1568:8 1570:1,24	born 1502:8 1510:8
1570:6 1573:2	1583:23 1587:1	1602:2 1603:9,17	1578:12 1585:24	both 1485:11
1577:2 1582:7	1590:14 1598:12	1603:20,21	1608:7	1487:2 1493:18
1588:20	1602:25 1603:2	1606:5 1607:10	between 1518:18	1497:13 1503:3
background 1539:1	1612:19	1611:24,25	1523:23 1545:11	1503:25 1505:18
1550:8 1561:17	bases 1584:19	1612:19 1613:3	1578:20 1593:16	1506:3,24 1508:3
1562:2,3 1566:17	basic 1475:21	1615:1 1616:11	1608:1	1515:22 1516:3
bacteria 1493:21	1540:5 1566:17	beings 1474:20	beyond 1540:23	1540:5 1545:21

1550:10 1600:1 1606:12 bottom 1507:20 bought 1480:19 box 1484:18 1570:23 1582:13 boy 1480:11 boyhood 1481:5 brain 1483:14,15 branch 1602:24 brand 1502:5 1525:8 Brandon 1482:2 1492:25 break 1532:13 1584:17 breakdown 1484:7 breaking 1511:19 breathing 1483:7 bred 1481:6 breeders 1478:15 bridge 1485:23 brief 1554:17 1561:16 1570:25 1575:13 1591:5 briefly 1508:16 1512:19 1520:6 1520:19 bringing 1573:8 1579:2 broad 1526:8 1542:12 1583:11 broadly 1526:9 broke 1556:3 broken 1474:10 Broquerie 1550:25 1551:3,7,9,14 1578:14 brothers 1603:17 1603:18 1604:12 1604:16 brother-in-law 1603:19 brought 1529:15 1543:2 Brunkild 1537:5 build 1487:14,17 1488:7,12,18 1489:2 1508:18 1527:9 1535:19 1611:22 building 1463:14 1464:10,13 1471:13,14 1535:12,20 buildup 1611:24 build-up 1520:15	built 1469:15 1487:18 1489:3 1502:5 1536:9 1609:23 bulk 1556:19 burden 1523:2 bush 1608:24,24 1609:3 business 1466:21 1480:2,15 1492:4 1494:24 1495:18 1496:21 1518:16 1533:14 1535:6 1539:19 1560:10 1563:10 1579:9 1604:11 businesses 1480:21 1495:5 1533:24 1535:5 busy 1534:23 buy 1468:13 1469:6 1488:24 byproduct 1602:18 by-laws 1462:17 1463:17 1471:19 <hr/> C C 1597:16 cake 1481:17 1482:25 1483:3 caged 1481:18 cages 1481:3,22,23 1484:11 1505:8 1505:12 1510:23 cal 1599:13 calculate 1562:4 1564:23 1596:8 1596:15 1599:1 calculated 1594:22 calculating 1602:4 calculation 1562:20 Calgary 1603:1 calibrate 1585:7,20 calibrated 1586:21 call 1488:16 1489:16 1499:15 1515:21 1550:5 1554:18 1580:9 1580:18 called 1559:19 1578:2 1590:12 1590:14 1598:8 came 1475:14 1482:3 1484:8,24 1485:6,21 1525:16 1530:16 1530:20	Campaign 1479:10 Canada 1480:8 1496:14,16,16 1519:14 1522:24 1527:17 1531:8 1533:23 1539:16 1543:14 1576:11 1576:13 1577:8 1591:3,24 1593:15 1598:20 1598:21 1601:2,4 1602:3 Canadian 1492:14 1507:3 1569:21 1569:22 1594:17 cancer 1534:2 candidates 1539:25 1540:9 1541:15 canola 1502:1 1598:1 cap 1582:16,20 capability 1565:3 capable 1478:18 capacity 1528:16,20 1528:22 1529:2 1582:3,9,10 capital 1469:3 1513:23 1551:4 carbon 1587:15 cards 1512:15 care 1495:19 1506:16 1534:2 careful 1478:22 1507:1 carefully 1482:16 1482:19,21 1521:8 caregivers 1483:21 Cargill 1537:7 1548:15,19 caring 1517:22 carried 1485:20 carrier 1498:22 carries 1597:17 carry 1524:23,24 carrying 1466:21 case 1485:11 1489:10 1491:4 1499:22 1529:14 1539:1 1540:25 1551:19 1552:2,7 1564:10 1568:16 1597:11 1602:19 cases 1524:16,21,22 1545:21 1565:15 castrated 1594:14 catastrophic 1553:3	1553:9 catch 1602:12 categories 1556:4,7 categorization 1570:11 categorized 1570:10 Cathy 1459:7 1533:7 cats 1484:14 cause 1477:11 caused 1495:11 cautioning 1525:5 cautiously 1494:23 Cavers 1589:21 CCA 1537:11 1538:5,23,25 1539:6 1540:5,11 1540:14,21 1541:11 1543:6 1543:12 CCAs 1538:13,16 1538:17,20 1539:12 1541:7 1541:18 1542:4,9 1543:18 1544:1 1544:13 1558:6 CEC 1461:21 1466:16 1476:8,9 1517:13 1519:24 1520:20,22 1522:3,3,9,14,21 1552:11,19 1553:15 1554:12 1556:5 1573:24 1579:21,25 cell 1469:19,20 1565:8,9,20 1566:9,14,16 cells 1565:14,16 CEMA 1507:3 1508:1 1513:4 censure 1541:21 census 1551:13 cent 1492:4 1496:9 1496:12,13 1509:14 1512:6 1513:12,14,15,16 1513:16 1523:24 1530:25 1540:9 1549:23 1551:14 1560:21 1561:13 1568:18 1582:7 1582:11 1588:5 1588:11 1593:5,7 1595:8 1596:10 1596:21,22	1598:3,4,23 1599:9,10,16,18 1601:22 1605:19 1615:22 central 1583:9 Centre 1458:17 1602:8 centrifuging 1531:6 CEO 1517:7 certain 1465:15 1499:16 1513:2,9 1514:6,8 1530:19 1583:17 certainly 1471:20 1472:5,21 1479:24 1514:3 1543:4 1600:11 1602:7 1616:7,10 1616:12 CERTIFICATE 1618:2 certification 1539:2 1539:7 1540:11 certified 1537:9 1538:13 1542:2 1544:11 1558:6,7 1563:6,9 certify 1618:7 certifying 1497:4 CESCO's 1606:22 cetera 1498:16 1503:12 1510:24 1535:15 1594:21 CFIA 1568:21 1569:15,23 1570:8 chair 1514:24 1535:25 1537:10 challenge 1496:24 1558:17 1577:23 1577:24 1578:8 1583:3 1589:25 challenges 1497:6 1550:21 Chamber 1533:6,12 Chambers 1533:13 chance 1486:16 1494:9 change 1492:8 1503:11 1558:14 1558:23,24 1569:16,17 1575:9 1579:8 1592:19 1610:20 1613:25 changed 1465:23 1476:3 1513:10
--	--	---	---	--

1567:14,15 1610:3 changes 1503:15 1505:3 1507:6,19 1508:6 1513:10 1514:11 1558:15 1558:18,19,22 1566:20,23 1579:7 1585:20 1585:25 changing 1493:11 1503:13 1559:1 1598:21 chart 1551:1 chat 1481:13 check 1466:9 checking 1497:15 checklist 1513:7 check-marks 1548:2,6 chemicals 1468:17 1478:17 chest 1545:4 chicken 1477:5 1481:6 1483:5 1487:2 1490:7 1505:6 1515:23 1516:2,5,25 chickens 1474:20 1480:4,6 1481:1,5 1481:7,11,18 1482:9,10 1483:20 1504:8 children 1495:22 1501:7 1502:12 1504:14 1510:9 1518:14 China 1580:14 choice 1490:22 1527:16 choose 1537:25 chose 1550:25 1582:1 chosen 1550:23 Christmas 1474:12 city 1477:4 1479:9 1479:14 1481:2 1502:9 clarification 1584:8 clarify 1577:4 clarity 1594:5 class 1547:13 1568:10 classes 1547:14 1565:3 1568:25 classification 1547:12	clause 1559:4 clay 1611:21 clean 1458:1 1459:3 1474:23,24 1481:19 1494:8 1494:12 1498:25 cleaner 1505:20 cleanliness 1493:23 1575:1,4 clear 1509:11 1515:6 clearer 1556:24 clearly 1541:22 1597:2,5 1601:9 clicked 1575:11 clients 1541:14 1544:15 Climate 1575:9 close 1465:17 1474:12,13,22 1486:11,12,22,22 1487:14,18 1488:7 1489:5 1491:3 1492:1 1493:3 1507:11 1513:12,13,15,16 1518:21 1552:3 1564:21 1581:17 1581:18 1587:24 1608:24 1609:23 1611:6,8 closely 1492:14 1521:17 closing 1510:4 1541:25 Coccidiosis 1481:9 code 1506:17,20 1516:14 1541:17 1541:22 colleague 1601:8 colleagues 1518:25 collect 1563:21 collecting 1547:5 1573:15 collects 1489:8 College 1535:15,15 colours 1567:6 columns 1596:19 combination 1498:21 combine 1563:22 come 1463:11 1472:24 1476:2 1478:16 1479:13 1489:10 1499:9 1499:19 1509:25 1518:15 1524:7,9	1525:1 1527:9,15 1535:14 1536:24 1541:19 1553:17 1556:1 1578:4 1582:7 1583:1 1588:24 1600:8 1606:12 1607:16 1610:22 comes 1500:13 1507:4 1513:4,5 1519:23 1545:10 comfortable 1492:17 coming 1484:2 1500:22 1517:4 1529:18 1617:9 commencing 1461:2 commend 1613:19 commendable 1508:14 commensurate 1597:6 comment 1508:16 1522:18 comments 1501:16 1533:11 1615:24 Commerce 1533:6 1533:12,13 commercial 1492:20 1498:22 1547:25 1568:24 1596:4 commercially 1597:21 commission 1458:1 1459:3,7 1538:23 1541:10 1569:21 1569:22 1604:22 1610:5 commit 1555:1 1558:1 1561:10 1563:11 commitment 1491:22 1518:8,9 1518:12 1519:3 1520:3 1550:20 1561:12 committed 1518:10 1518:23 1526:11 1526:14 1557:22 1560:21 committee 1510:12 1515:1 1517:13 1521:7,10 1541:20 1548:24 1549:3 1557:5 1560:7 1573:7	1578:3,3 1610:6 1614:21 committee's 1589:13 commodities 1593:9 commodity 1541:23 1593:8 1599:20 1600:2 common 1498:16 communicate 1495:16 communication 1483:16 1550:18 1571:5,8 communities 1495:19 1532:1 1542:10 1550:19 1571:21 1572:4 1574:15 community 1458:17 1501:8 1518:18 1534:3 1536:9,19 1536:20 1613:3 companies 1495:2 1497:11 1594:2 company 1480:14 1491:25 1492:6 1492:21 1495:9 1517:17,19,19 1518:1,4 1519:14 1522:14 1527:22 1530:4 1539:13 1559:19 1560:14 1560:14 1574:20 1581:5 1590:12 1590:13 1602:24 comparison 1575:25 comparisons 1566:5 compelled 1487:19 competency 1539:24 complaint 1541:18 complaints 1469:12 1545:6 1574:20 1574:22 complete 1476:24 1494:13 1579:21 completed 1476:22 1494:1 1507:7 1589:7 1590:9 completely 1493:21 1505:6 completing 1507:21 1540:10 1561:12 1572:7	completion 1567:19 complex 1534:1 1535:11 1556:21 compliance 1494:1 complicated 1502:16 1614:3 complied 1463:17 1463:20 comply 1476:15 component 1541:1 composted 1490:8 composting 1519:11 comprehensive 1541:16 computer 1482:21 concentrate 1565:16 concentration 1524:17 1531:20 concentrations 1562:5,6 1567:13 concept 1510:6 concern 1477:24 1479:25 concerned 1477:15 1487:16 1499:8 1504:12 1523:10 concerning 1463:18 concerns 1477:20 1523:9,17 concerted 1478:15 concise 1509:11 conclusion 1550:7 1551:20 1577:13 1599:23 conclusions 1522:8 1551:22 1577:3 Concurrently 1563:18 conditional 1571:13 1572:20 conditioning 1584:13 conditions 1463:14 1464:21,23 1480:7 1481:1 1490:20 1492:17 1494:24 1552:23 1564:3 1594:12 1594:17 1596:18 conduct 1570:12 1576:10 conducting 1510:14 conducts 1576:9 confidence 1495:8 1501:19 1561:2,5
--	--	---	--	--

1579:25 1580:1 confident 1521:23 1535:5 1613:12 confirmations 1563:25 confrontational 1571:14 1572:19 confused 1594:2 confusion 1593:11 1593:14 congratulations 1536:20 consciously 1501:14 consequence 1570:8 1613:6 conservation 1538:17 1560:19 1560:20 1561:10 1563:3,13 1564:12 1579:23 1608:23 conserve 1559:14 consider 1520:7,11 considerably 1473:5 1483:19 consideration 1478:23 1507:1 considerations 1545:5,8 considered 1485:10 1524:13 1529:16 1574:5 considering 1547:10 considers 1540:22 consistency 1464:4 consistent 1466:4 1471:19 1558:13 1566:3 1596:12 consists 1502:2,6 Conspicuously 1483:12 constant 1481:9 1558:14 1560:2 constitution 1472:12 constructed 1477:7 1477:14 construction 1463:23 1464:6 1465:10 1534:17 1534:19 consultation 1498:8 1499:14 1572:18 consumer 1467:10 1472:20 consumption	1463:1 contact 1557:8 contacts 1562:9 contamination 1494:10 content 1474:22 1475:3 1562:3 1588:14,15 1591:10 1598:2 continually 1493:24 1502:19 continue 1494:18 1495:20 1502:13 1507:22 1510:11 1522:25 1532:19 1532:21 1535:7 1540:11 1574:16 1579:24 1580:4 1590:8 1610:20 1613:9 continued 1553:22 continuing 1539:6 1540:13 1557:22 continuous 1584:23 continuously 1493:11 1585:1,2 contract 1498:18 1527:9 contracted 1532:3 contribute 1551:5 1613:1 contributed 1533:21 contributes 1534:11 1537:23 contributions 1538:1 contributor 1535:8 1612:22 contributors 1489:21 control 1462:12 1463:3,10 1469:25 1477:10 1493:24 1515:20 1574:7 1595:13 controlled 1482:19 1482:22 1504:2 convenient 1612:23 Conventional 1611:20 conviction 1518:12 COOL 1579:17 cooperated 1466:3 cooperation 1613:20 Cooperator 1479:7	corn 1462:7 1502:1 1605:5 1606:6,8,9 1606:10 corner 1538:5 Corporation 1517:8 1517:15 correct 1482:17 1496:19 1497:22 1500:11 1512:22 1548:13 1595:14 1618:8 corrected 1569:21 correctly 1520:10 1558:3 1561:3 cost 1469:25 1473:9 1506:6 1511:1 1512:8 1527:12 1528:9 1546:6,10 1578:25 1579:2 1579:10 1606:12 1609:15,19 costing 1567:18 1570:5 costly 1472:10 costs 1465:7 1467:1 1506:8 1551:2 1600:2 1609:13 1609:14 1610:11 1613:7 1615:3 council 1461:20 1463:24 1464:24 1466:8 1488:23 1492:11 1510:1 councillor 1499:7 counteract 1558:19 countries 1550:15 1577:6 country 1534:5 1543:13 1577:8 1579:17 1580:13 couple 1480:4,6 1484:2 1486:6 1543:24 1554:9 1564:20 1567:1 1569:25 1574:2 1579:5,15 1598:14 courage 1482:6 course 1475:8 1484:8 1487:19 1488:15 1511:7 1527:16 1549:3 1574:1 1588:22 1595:23 1602:13 1614:2 1615:9 court 1464:15,16,16 1470:24 1576:21	1618:6 courts 1464:18 cousins 1603:20 cover 1463:25 1469:22,22 1470:2 1540:2 1556:20 1607:20 1607:22 1614:13 1614:24 covered 1608:4 1614:8 covers 1607:18 CQA 1464:2 crated 1484:16 create 1606:2 created 1497:2,6 1595:10 1607:9 creates 1494:22 creek 1465:17 criteria 1571:4 1572:23 1574:8 1586:4,4 critical 1515:20 1541:1 crop 1463:7 1475:6 1487:4,5 1490:11 1490:15 1503:4 1503:14 1516:19 1537:9 1538:13 1539:13,19 1540:4,23 1542:2 1542:5,11 1544:7 1544:11 1545:25 1547:22 1548:3,7 1562:23 1564:5,7 1564:16,25 1567:15 1605:2,4 1606:8 cropping 1562:10 1605:1 crops 1463:8 1475:5 1501:25 1503:12 1515:25 1520:11 1529:22 1529:23 1606:9 1606:10,13 cross 1494:10 1497:3 crossing 1485:22 1497:5 crude 1597:6,24 Cuba 1480:5 cultivars 1478:16 cultivating 1470:9 1470:19 cultivation 1584:20 curious 1482:11	1602:23 current 1494:21,24 1553:19,21 1555:14,23 1556:8 1568:6 1571:2 1574:3 1583:22 currently 1501:24 1506:1 1519:16 1537:3,10 1538:17 1540:8 1544:9 1550:13 1556:8 1557:16 1560:20 1563:7 1575:23 custom 1516:11,11 1559:21 customer 1545:11 customers 1491:24 1494:4 customs 1497:12 cycle 1540:13 1564:5 1568:8 cysteine 1597:13,16
D				
D 1577:18 dad 1603:18 1604:12 1611:22 daily 1541:8 1595:25 1597:7 Dakota 1575:24 damage 1472:23 1499:21 1584:15 data 1461:21 1463:1,1 1467:2 1552:1,6 1559:25 1560:3 1562:4,23 1563:21 1567:17 1585:6 1593:1 1615:1 date 1496:4 1567:18,19 dates 1563:14 1564:1 date-stamped 1565:25 David 1484:22 day 1484:6 1553:1 days 1470:16,16 1484:2 1494:13 1552:21 1614:4 day-to-day 1553:16 1553:18 dead 1463:10 deadline 1572:9 1589:8				

deal 1481:8 1571:16 1575:19 1579:16 1583:25 1595:21	dent 1616:8	1589:23	disease 1462:15 1494:8 1503:24 1575:8	1465:19 1467:6 1468:20,22 1470:7 1472:22
dealing 1505:23,23 1516:5 1542:14 1577:22	dentist 1479:11,12	developments 1571:19,20 1572:21	diseases 1579:19	1472:23 1478:18 1478:22 1487:3 1499:21 1509:3
dealt 1464:15 1577:16	department 1560:23	deviate 1562:19	disgust 1482:4	1516:12,14,18 1523:16,16 1551:16 1553:12
dear 1567:25	departments 1465:3	diagonal 1567:2	disgusting 1482:8	1560:25 1561:5 1561:23 1578:21 1582:6
death 1523:4	depend 1528:4 1600:2	dialogue 1477:14	disinfectant 1493:20	disposal 1463:10
debate 1591:23	dependent 1480:25 1528:13	dicalcium 1592:19 1593:4	disinfected 1493:18	disposed 1463:11
Debra 1618:6,15	depending 1470:8 1487:6 1588:13	dictates 1568:22	dismissal 1541:21	disproportionate 1478:12
deceit 1479:5	deplorable 1481:1	diesel 1528:9	display 1484:15	disqualify 1573:15
decent 1512:11 1537:24	describe 1548:22	difference 1469:1 1505:14 1510:25 1583:14	displaying 1484:18	dissecting 1481:17
decided 1485:17 1523:21 1574:1	described 1599:7	differences 1516:9	disposal 1463:10	distance 1482:4 1487:20,25 1488:5 1551:25
decides 1503:6	describes 1474:18	different 1465:2 1480:11,22 1496:2 1516:2 1526:12 1531:2 1550:15 1551:24 1553:5 1554:20 1554:22 1555:12 1555:19 1556:4,7 1557:10 1562:18 1567:5,6,9,12,16 1568:11,12,24 1576:18 1593:12 1603:4 1604:6,7	displaying 1484:18	distances 1463:12 1500:4
decipher 1582:19	describing 1498:13	differently 1515:24	disposal 1463:10	distributed 1531:19
decision 1510:3 1515:5 1520:24 1528:12,14	description 1554:24 1555:14 1556:6	difficult 1476:15 1503:2,17 1546:7 1558:21 1595:22 1610:18	disposal 1463:10	distribution 1478:7 1478:9,13 1482:21,22
decisions 1507:13 1507:22 1542:11 1542:14	descriptions 1547:10 1555:13	difficulties 1476:12	disproportionate 1478:12	diverse 1495:23
dedicate 1558:4	design 1462:19,21 1463:19 1469:24 1574:8	digestibility 1592:5 1592:23 1593:2,6 1593:7,9,19,22	dissecting 1481:17	diversification 1502:17,22
deem 1555:11 1568:2	designated 1499:10 1499:13	digestible 1592:3 1593:13,24 1594:7,9,23 1595:18,25 1596:3 1599:4,5 1602:5	distance 1482:4 1487:20,25 1488:5 1551:25	diversified 1492:22
deemed 1538:3	designations 1539:21	diligently 1521:11	distances 1463:12 1500:4	diversify 1503:12
deep 1606:18,23	designed 1541:17 1552:21 1553:1	direct 1507:19 1522:10 1551:7 1551:10 1609:19 1613:7	distributed 1531:19	diversion 1488:14 1489:6,8,12
defeated 1465:1	desire 1477:22	director 1493:24	distribution 1478:7 1478:9,13 1482:21,22	diverse 1495:23
deficient 1566:15	detail 1557:10 1573:25 1575:9	disciplinary 1541:20	diversification 1502:17,22	diversified 1492:22
deficit 1528:25	detailed 1554:12 1555:22 1556:6	discussion 1479:14	diversification 1502:17,22	diversify 1503:12
defines 1541:23	details 1557:2		diversify 1503:12	document 1503:12
definite 1488:6	determination 1593:12		document 1503:12	documentation 1557:6
definitely 1524:18 1525:11 1527:13 1528:18,18 1569:13 1572:14	detrimental 1552:8		document 1503:12	documentation 1557:6
degree 1465:25 1502:10 1604:11	develop 1554:20 1563:14,22 1574:11 1586:9		document 1503:12	documented 1585:5
deliver 1565:22	developed 1477:3 1498:8 1563:3 1574:9 1586:3,12 1591:19		document 1503:12	documents 1464:16 1464:17
demands 1493:12 1522:22	developing 1478:17 1492:15 1542:8 1572:1,3,3 1579:24 1593:21		document 1503:12	dogs 1484:14
demonstrate 1519:3 1521:2 1553:18 1553:20	development 1476:25 1492:3 1553:23 1569:24 1571:6,9,24 1572:8,11,16,17 1572:22 1588:21 1588:21 1589:6		document 1503:12	doing 1461:24 1462:18 1474:7 1475:8,16,24 1477:1 1501:18 1501:22 1502:21 1504:25 1508:11 1508:13 1523:13 1531:1 1536:20 1547:22 1559:23 1561:3 1575:20 1585:1 1607:12
demonstrated 1539:24			document 1503:12	dogs 1484:14
denied 1461:18 1571:21			document 1503:12	doing 1461:24 1462:18 1474:7 1475:8,16,24 1477:1 1501:18 1501:22 1502:21 1504:25 1508:11 1508:13 1523:13 1531:1 1536:20 1547:22 1559:23 1561:3 1575:20 1585:1 1607:12
Denis 1459:18 1549:14,16 1577:2			document 1503:12	dogs 1484:14
Denmark 1600:24			document 1503:12	doing 1461:24 1462:18 1474:7 1475:8,16,24 1477:1 1501:18 1501:22 1502:21 1504:25 1508:11 1508:13 1523:13 1531:1 1536:20 1547:22 1559:23 1561:3 1575:20 1585:1 1607:12
densities 1492:16 1497:16			document 1503:12	doing 1461:24 1462:18 1474:7 1475:8,16,24 1477:1 1501:18 1501:22 1502:21 1504:25 1508:11 1508:13 1523:13 1531:1 1536:20 1547:22 1559:23 1561:3 1575:20 1585:1 1607:12

dry 1487:23 1505:17,24 1516:5,8 1601:21 drying 1493:20 1505:13 ducts 1482:23 due 1568:18 1571:21 1579:20 1605:6 1610:15 duly 1618:6 dump 1488:2 dumped 1489:11 dumping 1561:6 1564:9 dung 1597:3 during 1475:19 1490:14 1492:18 1563:18 Dust 1482:23 Dutch 1595:5 duties 1548:23 duty 1548:19 dweller 1479:9,14 dying 1617:7	1502:15 1535:8 1536:5 1537:23 educate 1482:1 1553:14 educated 1509:4 education 1534:1 1535:11,13,18 1539:6,25 1540:13,21 educational 1539:22 1563:11 Edwin 1459:5 1468:8 1486:7 1497:23 1529:25 1542:25 1584:6 1601:11 1615:25 effect 1519:23 1530:17,20 1534:14 1610:2,3 effective 1494:3 1511:1 1574:6,18 1579:10,10 1606:12 effectively 1560:25 1561:8 1579:1 1592:8 1594:24 1599:15 1610:22 effectiveness 1521:21 1560:4 effects 1538:2 efficacious 1478:17 efficiency 1586:25 efficient 1612:3 effluent 1489:11 effort 1478:15 1501:14 1604:14 1604:17 1605:3 1606:2,19 1607:16,22 1608:18,21 egg 1474:16 1483:25 1507:3 1507:24 1508:1,8 1511:10 1513:14 1513:20 eggs 1481:3 eight 1462:24 1489:10 1499:5 1500:14 1528:21 1528:21 1544:11 1592:13 1595:6 1600:23 either 1471:10 1503:3 1509:20 1545:5 1548:11 1555:23 1558:6 1573:14	elderly 1472:9 elements 1482:18 Eleven 1563:14 eliminate 1493:21 1494:9 eloquently 1504:20 elsewhere 1526:14 embarrassed 1482:13 Emerson 1473:4 emissions 1587:17 emotional 1571:14 1571:22 emphasize 1551:15 employ 1493:3,8 1517:21 1520:2 employed 1539:12 1539:14 1542:4 1544:1,3 employees 1505:17 1517:15 1518:19 1522:10 1603:2 employer 1534:10 1545:11 employing 1492:1 employment 1534:19 employs 1493:6 1550:14 empowered 1576:14 emptied 1552:22 empty 1552:17,18 encountered 1476:12 encourage 1514:11 1557:5 1559:25 1573:24 encouragement 1589:3,7 encourages 1561:1 end 1484:20 1487:25 1497:3 1500:14 1505:1 1511:8 1514:15 1514:16 1515:5 1547:6 1588:10 1589:16 endeavour 1491:20 endeavours 1615:6 ending 1514:15 ends 1489:12 1516:3 energy 1467:9 1598:9,13,18,20 1599:6 1602:7 1610:13	enforce 1499:16 1559:25 1576:18 1576:21 enforcement 1575:15 1576:5 enforcing 1467:4 engineer 1463:18 engineered 1462:19 1462:21 engineers 1531:6 England 1590:13 1600:21,22 English 1549:21,22 enhance 1478:19 enjoy 1474:18 1475:5 1495:21 1518:22 enjoyed 1475:16 enjoyment 1475:10 Enns 1459:17 1537:6,15 1545:21 1546:7 1546:12,18,18,22 1548:13,18 1549:10 enough 1464:9 1468:2 1478:5,8 1478:11,13,14 1489:19 1497:17 1568:1 1570:12 1611:3 ensure 1463:12 1466:4,9 1492:17 1493:25 1494:2 1497:8 1506:11 1508:11,25 1510:16 1540:5 1540:18 1541:9 1574:12 1575:4 1585:8 1587:7,8 Ensured 1463:23 enterprises 1544:6 entire 1513:18 1604:21 entirely 1477:10 entitled 1474:9 entrance 1540:1 entrepreneur 1492:1 entrusted 1542:18 entry 1539:11 enumerate 1481:4 enviable 1534:6 environment 1458:1 1459:3 1466:24 1476:20 1478:24 1489:18	1491:24 1501:16 1501:22 1502:15 1504:3,4,8,9,18 1505:4,15,20 1507:14,17,20 1508:12 1509:2 1509:11 1510:17 1510:25 1512:2 1513:1 1518:8,10 1518:13,19 1519:13 1520:3 1521:12 1538:3 1540:19 1541:1,8 1542:22 1576:2 1576:13,15 1609:6 1613:5 environmental 1507:8 1514:5,14 1518:11 1519:4,6 1519:15 1520:1 1521:3,13 1522:4 1522:7,19 1526:7 1534:24 1538:6 1575:10 1577:15 1577:20 1580:3 1582:4,24 1591:15 1606:15 1607:20 1610:5 environmentally 1495:18 1514:12 1598:12 1608:11 enzyme 1569:12,19 1592:10 equally 1538:7 equate 1506:7 equates 1502:4 equation 1528:6 1534:8 equations 1594:15 1596:23 equip 1494:14 equipment 1478:18 1494:12 1495:4 1497:14 1503:14 1505:7 1511:5,19 1511:21 1512:1 1512:13 1514:7,9 1555:2 1584:15 Eric 1459:17 1537:1,3,15 erosion 1463:9 especially 1475:18 1477:25 1483:23 1578:22 1608:7 essential 1540:17 1540:18 essentially 1555:6
E				
each 1493:16 1540:22,24 1544:15 1586:21 earlier 1509:15 1516:4 1522:1 1543:17 1581:11 1599:12 1600:9 early 1490:13 1595:9 earthen 1547:4 easier 1536:21 easily 1596:7 Easter 1474:13 easy 1530:14 1596:11 1614:4 eat 1482:16 eats 1595:20 economic 1492:22 1494:24 1495:2 1502:18 1521:4 1525:1 1534:20 1538:1 1550:24 1578:24 1579:7 1582:22 economical 1608:11 economically 1610:12 economics 1528:5 1550:23 1578:5 1592:14 economy 1495:14				

<p>establish 1509:6 1547:23 1562:7 1564:15 1565:2 1570:13 1572:24 1585:23</p> <p>established 1545:14 1545:16,22 1547:2,17 1571:3 1599:24</p> <p>establishing 1509:8 1547:3</p> <p>estate 1552:9</p> <p>estimated 1492:4 1562:3,4</p> <p>estimating 1568:17</p> <p>estimation 1588:9</p> <p>estimations 1588:6</p> <p>et 1498:16 1503:12 1510:24 1535:15 1594:21</p> <p>ethanol 1579:20</p> <p>ethical 1539:10 1542:20</p> <p>ethics 1541:17,20 1541:22</p> <p>Europe 1531:11 1590:21 1591:24 1592:11,17 1593:18 1595:1 1599:25 1600:21</p> <p>European 1593:14</p> <p>evaluate 1507:4</p> <p>evaluated 1521:20</p> <p>evaluation 1525:14</p> <p>even 1476:25 1478:9 1479:22 1500:3 1511:24 1540:16 1557:9 1570:12 1586:10 1605:24 1607:14 1611:4</p> <p>events 1553:3,10</p> <p>eventually 1588:18</p> <p>ever 1493:11 1544:17 1545:7 1604:12 1614:7 1616:20</p> <p>every 1465:24 1471:15 1493:4 1501:14 1506:6 1506:10 1507:3 1513:3 1519:7 1585:21 1605:10 1611:14</p> <p>everybody 1480:16 1485:25 1486:1 1590:20</p>	<p>everyday 1534:25</p> <p>everyone 1542:1</p> <p>everything 1472:24 1504:21 1510:16 1546:23</p> <p>everywhere 1469:11 1529:12</p> <p>exact 1556:6 1583:24</p> <p>exactly 1512:10 1516:9 1546:8</p> <p>examination 1582:5</p> <p>example 1467:2 1481:21 1503:23 1506:21 1514:5,7 1519:10 1535:14 1550:23 1564:17 1566:24 1594:11 1596:22</p> <p>examples 1533:25 1576:3 1596:6,17</p> <p>exams 1540:1,2,10 1540:20</p> <p>exceeded 1506:20 1506:22 1521:24</p> <p>excel 1556:25</p> <p>excellence 1491:21</p> <p>excellent 1507:10 1514:4,17</p> <p>except 1478:12</p> <p>excess 1473:6 1517:25 1583:13</p> <p>excesses 1597:17</p> <p>exchange 1579:5,20</p> <p>exchanges 1587:2</p> <p>excreted 1596:10 1599:2</p> <p>excretion 1591:20 1598:3 1600:7</p> <p>exercise 1507:9</p> <p>EXHIBITS 1460:1 1460:3</p> <p>exist 1600:5</p> <p>existing 1538:11</p> <p>exonerated 1467:8</p> <p>expand 1466:20 1488:24 1522:18 1583:4 1604:13 1604:19,19,25 1616:12,25</p> <p>expanded 1603:23</p> <p>expanding 1512:14</p> <p>expansion 1466:17 1509:21 1512:4 1520:25 1528:6 1604:17 1614:24 1616:8,19,20</p>	<p>expect 1548:5</p> <p>expectations 1494:19</p> <p>expected 1562:21 1562:22</p> <p>expecting 1573:17</p> <p>expenses 1514:16</p> <p>expensive 1469:4</p> <p>experience 1483:22 1508:21 1520:1 1539:10 1573:4 1575:22 1576:1</p> <p>experienced 1503:1 1503:5 1574:21</p> <p>experiences 1562:24</p> <p>experiment 1481:16</p> <p>expert 1578:2,3</p> <p>expertise 1548:11 1468:25 1471:4 1474:7 1512:19 1583:4 1584:24 1600:17</p> <p>explanation 1464:11,14 1467:18</p> <p>export 1527:3</p> <p>exported 1580:25</p> <p>exporters 1579:6</p> <p>extend 1514:17 1540:23</p> <p>extension 1539:20</p> <p>external 1504:9</p> <p>extra 1500:4</p> <p>extremely 1502:17 1506:24 1508:4 1558:2 1601:5</p> <p>eye 1482:24</p> <p>E.M.S 1519:5</p> <hr/> <p style="text-align: center;">F</p> <hr/> <p>face 1482:5 1557:3</p> <p>faceted 1479:1</p> <p>face-to-face 1476:23</p> <p>facilities 1492:24 1493:1 1494:7 1518:21 1519:25 1535:13 1551:3</p> <p>facility 1463:23,25 1469:17 1493:19 1534:2 1535:17 1547:4</p> <p>facing 1494:16</p> <p>fact 1472:3 1475:16 1487:13 1488:22</p>	<p>1494:8 1503:24 1508:24 1514:13 1520:23 1521:7 1526:2 1551:23 1552:25 1564:10 1577:13</p> <p>factor 1504:1 1524:13</p> <p>factors 1494:17 1527:8 1528:5,13 1529:3 1583:1 1584:11 1587:4</p> <p>factory 1480:12</p> <p>facts 1486:18</p> <p>faculty 1481:14 1539:16</p> <p>fail 1544:19</p> <p>failed 1544:18</p> <p>fails 1552:7</p> <p>fair 1468:1 1482:2 1509:4 1613:4</p> <p>fairly 1469:4 1526:8,9 1556:21 1566:3,4 1576:12 1596:12</p> <p>faith 1464:18</p> <p>fall 1490:12 1503:5 1516:12</p> <p>fallow 1490:15</p> <p>falls 1593:16</p> <p>familiar 1503:8</p> <p>families 1517:16 1518:20,20 1522:10 1535:1 1550:11 1611:8 1613:21</p> <p>family 1462:1,5 1501:13,17 1502:13 1504:11 1504:13,16 1510:7 1549:20 1550:9 1603:14 1610:17,19 1611:7 1613:20 1616:24</p> <p>fancy 1479:22</p> <p>fans 1482:22</p> <p>fantastic 1514:13</p> <p>far 1502:23 1505:15 1505:23 1510:25 1513:17 1514:9 1515:24 1516:6 1540:15 1544:10 1545:19 1548:7</p> <p>farmed 1503:25</p> <p>farmer 1510:8,8 1536:12 1546:21</p>	<p>1548:11 1600:16 1614:3</p> <p>farmers 1475:24 1476:10 1478:19 1478:20 1480:2,3 1480:8,24 1502:25 1504:11 1510:9 1513:25 1515:13 1529:19</p> <p>farming 1465:24 1466:20 1471:21 1474:6,14 1475:9 1502:11 1503:21 1507:12 1510:5 1604:12 1606:15 1613:2 1614:3,4</p> <p>farmland 1608:25</p> <p>farms 1480:1,6,18 1480:19 1501:20 1517:22 1552:14 1553:16 1559:13 1561:23,24 1575:3 1584:2 1603:13 1606:14 1606:18 1607:5</p> <p>farm-by-farm 1595:23</p> <p>farrow 1603:24</p> <p>fashion 1480:9</p> <p>fastest 1533:22</p> <p>father 1484:23,24 1485:1,3,6,8</p> <p>favour 1464:24</p> <p>favourable 1592:14 1600:3</p> <p>federal 1601:15</p> <p>feed 1474:24 1475:17 1478:6 1482:16,25 1484:5,6 1496:18 1510:23 1517:23 1517:23,24 1531:22 1540:17 1568:13,21 1569:2,8,24,25 1570:1,9,21 1591:8,11 1592:12 1593:10 1594:4,14 1595:13,21,24 1596:25 1597:3 1597:22,23 1598:2,12 1599:14 1600:12 1608:15 1615:15</p> <p>feedback 1521:17</p> <p>feeder 1484:7</p>
---	--	--	---	---

1498:15 1502:6 feeders 1486:23,24 feeding 1505:8,12 1568:3,6,7,7 1570:13 1590:23 1595:16,17 1596:9 1600:11 feeds 1568:24,24 1591:13 1597:5 1598:9,16 1614:19 feel 1477:6 1483:8 1483:15 1510:13 1510:13 1557:19 1558:2 1609:13 1615:4 feeling 1474:18 1479:8 feet 1582:1 1583:15 1606:23 fell 1485:23 1514:24 fellow 1483:25 1513:5 felt 1485:10 1501:11 1556:1 1556:10 1560:15 1563:10 1568:1 1575:21 1586:12 1605:11 1610:7 females 1600:17 fertility 1547:23 1606:12 1611:18 fertilize 1564:7 fertilizer 1468:14 1475:6 1506:5,8 1506:11,13 1527:12,12 1529:10,14,18 1542:8 1546:1 1547:25 1602:18 1605:6,8,9 1606:8 1612:9 fertilizers 1462:12 1468:16 fertilizing 1564:15 few 1480:4,6 1481:4 1499:20 1503:1 1505:2,5,5 1533:11 1553:7 1557:4 1573:21 1584:7 1592:4 1596:2 fewer 1540:8 field 1488:2 1503:5 1506:10 1545:15 1559:23 1564:23	1564:25 1565:2 1566:7 1567:21 1607:10,12 fields 1488:1 1490:7 1490:21 1506:9 1518:11 1552:6 1552:19 1562:8 1562:11 1564:1 1564:22 1566:10 1567:16 1582:11 1583:25 1605:11 1605:19,21 1607:15 1612:1 Fifteen 1563:24 fifth 1612:14 figure 1593:20 file 1563:2,12,24 filed 1463:7 1465:8 files 1556:25 filing 1561:25 final 1471:1,3,7,8 1473:2 1509:17 1509:20 1510:1 1515:5 1564:11 1584:4 finally 1465:9 1479:8 1494:8 1542:16 1600:14 finances 1464:8 financial 1523:1 1545:1,5,8 financially 1589:1 find 1465:13 1472:22 1476:5 1480:8 1481:23 1547:6 1606:20 1607:12 findings 1481:16 finish 1550:7 1571:7 1603:24 1604:2 finished 1578:13 finisher 1496:18 1605:7 finishing 1570:18 1604:5 firm 1480:20 first 1461:7,11 1464:6 1465:8,11 1473:21 1474:11 1479:7 1487:14 1488:7 1491:13 1497:4 1499:23 1501:3,10 1515:10 1517:9 1519:13 1527:16 1527:24 1533:9	1537:15 1546:3 1549:16 1552:10 1553:8 1554:10 1561:21 1562:15 1588:12 1590:16 1595:4 1597:12 1603:9 1606:18 1607:5 1611:12 1614:6,8 firsthand 1520:1 fit 1497:17 1538:23 1572:5 five 1499:4 1500:14 1551:18,25 1554:22 1555:17 1556:11,12 1559:4 1562:10 1588:5 1603:1 1614:25 Flakes 1462:8 flatly 1461:17 flexibility 1579:16 flies 1482:24 flock 1484:4 1505:21 1511:5,6 1511:24 1512:4 flocks 1506:24 1512:11 floor 1481:5,17,19 1481:22 1483:19 flow 1563:21 1567:4 1580:17 flows 1567:5 fluctuations 1585:24 focus 1504:23 1505:4 1522:4,7 1555:4 1557:13 1587:18 focusing 1522:19 followed 1506:20 1513:3 following 1474:5 1504:25 1506:1 1506:16 1514:22 1557:9 follows 1461:12 1466:17 1473:22 1491:14 1501:4 1517:9 1533:10 1537:16 1549:17 1590:17 1603:10 food 1475:18,21 1476:7 1477:22 1477:25 1478:2,6 1478:7,8,12,14 1479:2 1492:14	1506:18 1539:15 1564:8 1615:21 forage 1584:20 forced 1610:6 1614:23,23 1615:12 forceful 1589:7 foregoing 1618:8 foreign 1579:5,19 1579:20 foremost 1462:4 forget 1564:4 form 1484:9 1547:24 formal 1539:25 1541:18 former 1499:7 formulate 1591:13 1597:9,14 1598:17 formulated 1482:17 1597:5,12 formulating 1598:9 1598:16 1599:4,5 1599:6 1601:14 formulation 1591:8 1598:22 1601:19 forth 1465:4 1474:4 1573:3 1586:8 fortunate 1510:13 Forty 1478:1 forward 1476:21 1494:23 1522:14 1523:3 1524:20 1538:20 1572:14 1577:21 1578:7 1579:11,25 1584:1 fossil 1605:13 foul 1483:23 found 1481:18 1485:19 1507:9 1606:24 1608:1 1608:10 1614:23 foundation 1495:24 1578:6 founded 1517:20 four 1470:16 1471:15 1528:24 1528:25 1540:2 1551:25 1558:14 1562:8 1587:17 1597:12 1601:4 1603:1,17 1604:15 fourth 1612:14 fox 1482:13	frame 1589:18 framework 1542:3 1544:25 1554:18 1578:7 France 1593:23 free 1482:9 1494:8 freeboard 1553:2 Friedensfeld 1617:11 Freig 1517:4,6,6,9 1517:12 1518:3 1522:17,21 1523:12 1524:2,5 1526:10,18,20,24 1527:2 1528:2,4 1528:18 1529:6 1530:1,6,13 1531:21 1532:10 1532:11 freight 1497:11 1528:10 French 1549:20,21 1550:1 frequency 1498:5 1585:10,12,22 frequently 1483:3 fresh 1474:24 Friedensfeld 1458:17,18 Frieg 1459:15 friendlier 1476:19 friendly 1514:12 1608:11 1609:7 friends 1481:2 Friesen 1459:14 1500:25 1501:2,2 1501:3,5,6 1510:22 1511:3 1511:12,17,25 1512:9,18,20,24 1513:21 1514:2 1514:19,22 1515:2,12,17,21 1516:1,17,20,23 1516:25 1517:4 front 1485:18 1539:19 1541:6 1571:11,12 1574:13 1579:17 frost 1503:6 frustrating 1553:11 1589:20 frustration 1477:18 fuel 1495:4 fuels 1605:13 fulfill 1561:12 fulfilling 1542:5
--	---	--	---	--

full 1461:5 1485:22 1493:4 1526:17 1526:21,23 1528:1 1580:22 1585:6 1587:23 fully 1588:18 functional 1475:2 fundamentally 1494:25 funded 1461:19 funding 1461:17 1578:23 furniture 1582:20 further 1464:21 1487:20 1488:1 1488:24 1494:6 1519:3 1525:6 1528:12 1541:6 1551:15 1555:14 1572:15 1578:19 1579:1 1580:8 1583:19 1587:5 1597:1,24 1615:12,13 1616:13,20,22 1617:2 Furthermore 1541:9 furthest 1469:10 future 1495:20 1504:18 1506:2 1507:22 1508:7 1510:7,15 1526:5 1530:19 1538:11 1557:23 1574:11 1574:17 1581:13 1602:17 1605:1 1617:1	general 1540:19 1542:17 1553:12 1558:11 1561:2 1567:21 1572:18 1580:2 generally 1552:3 1597:25 1615:20 generation 1510:11 1518:13,14 1603:21 1604:15 1604:18 1612:13 1612:15 generations 1495:21 1518:15 1529:20 1613:10 1616:9 1617:1 genetics 1611:16 gentlemen 1461:4 1491:17 1501:5 1537:3 1549:7,12 1549:19 1580:13 1590:3 genuine 1518:9 geographic 1564:19 germane 1581:5 gets 1519:7 getting 1478:18 1482:11 1511:14 1569:5 1588:20 1594:2 1595:13 1607:11 1608:3 1609:22 1612:3 1615:10 GIS 1564:19 give 1473:12 1486:5 1530:3,11 1538:25 1554:16 1560:2 1561:14 1561:19 1568:5 1573:22 1586:24 1588:9 1595:25 1597:18 1608:18 given 1513:8 1551:20 1568:24 1581:5 1616:8 gives 1562:1 giving 1476:9 1500:22 1512:5 1610:24 glad 1616:4 Glen 1552:19 go 1461:13,23 1469:11 1473:23 1478:12,15 1479:11,12 1482:5 1483:10 1491:15 1508:25	1513:6 1517:11 1525:6,22 1526:13 1537:17 1547:8 1554:10 1557:5,10 1575:9 1575:18 1582:12 1583:8 1586:9 1589:12 1590:18 1596:25 1601:23 1603:11 1608:15 1615:10 1616:21 goal 1495:15 1547:19,20 1584:4 1604:21 1609:3 goals 1476:13 1547:18 1553:14 Goertzen 1536:17 goes 1479:23 1505:15 1513:5 1544:10 1612:8 going 1461:6 1466:12 1470:15 1470:22 1484:23 1504:23 1512:24 1523:3 1527:12 1528:8 1530:18 1531:8,9 1545:19 1546:24 1547:5 1547:14 1554:6 1556:17 1557:1 1566:4 1573:16 1573:21 1574:10 1574:16 1575:20 1577:21 1578:7 1579:11 1581:14 1581:17,17 1589:15 1602:20 1610:20,24 1612:7 gone 1484:1 1487:23 1511:6 1552:18 1572:17 1573:4 1576:20 1605:16 1609:14 good 1461:3 1464:2 1464:5 1466:1 1473:17 1477:16 1480:16 1488:8 1488:19 1491:16 1501:5,15 1513:17 1514:5 1514:25 1515:11 1518:16,17 1519:8 1529:21 1533:4 1535:24 1536:2 1537:2,19	1540:17 1542:22 1549:25 1554:3 1558:12 1565:6 1571:8,20 1572:2 1578:6 1580:3 1584:19,20 1590:19 1599:19 1602:8 1603:12 good-bye 1486:2 gotten 1572:9 governing 1555:7 government 1465:12 1466:3 1492:7 1495:11 1509:5 1521:14 1521:17 1522:21 1523:15,18,20,22 1524:1,12,17,19 1525:17,18 1550:19 1553:15 1558:21 1561:10 1569:14,14 1571:7 1578:1,22 1580:2 1583:6 1589:1 1607:21 1615:5,9,16 governments 1518:24 government's 1570:16 GPS 1463:6 1468:20 1559:16 1562:12 1563:18 1563:21 1565:25 1567:3 grace 1503:8 grade 1513:8 grades 1507:5 grading 1513:2 graduated 1604:9 1604:10 grain 1475:4 1501:8 1501:25 1502:25 1503:7,17,20,22 1504:2 1506:4,6 1569:21,22 1570:10,11 grains 1569:24 1570:1,1,3,9,22 grand 1613:14 grandchildren's 1518:14 grandfather 1603:16 granted 1475:23 1541:15 grants 1513:24	grass 1565:1 grassroots 1553:17 grateful 1476:8 great 1507:15 1523:14 1549:21 1571:16 1575:19 1581:9 greater 1487:25 1488:5 1552:5 1588:14 greatly 1605:5 1608:5 1609:12 Gregory 1459:17 1537:1,2,3,15,18 1542:24 1543:1 1543:11,14,19 1544:3,9,19,24 1549:8 Grenier 1459:11 1461:8,10,10,11 1461:14,15 1467:13,15,19,24 1468:4,8,9,12,18 1468:22 1469:1,3 1469:14,19,23 1470:3,7,15 1471:9,20 1472:5 1472:8,14,17,23 1473:1,9,15 1504:20 1509:15 grew 1475:11 1502:9 1583:22 grind 1557:1 1580:8 grinding 1575:19 ground 1503:4 1573:13 group 1495:2 1508:9,11,13 1513:18 1542:17 groups 1477:15,24 1495:3 1521:10 1552:12 grow 1496:16,18 1502:20 1528:17 1529:23 1570:12 growers 1539:8,20 1542:10,14 growing 1533:22 grown 1491:25 1536:4 growth 1492:3 1494:22,25 1495:1,7 1509:1 1526:17,21,23 1534:9,15,16 1550:12 1551:14
G				
gain 1519:25 1520:2 1521:12 1523:14 1539:11 gallons 1566:19 1567:7,11,17 1585:21 gas 1587:6 gasoline 1528:9 gate 1487:25 1501:16 gather 1543:11 1561:17 1601:14 gathering 1567:17 gauge 1558:21 1560:3 1562:17 gave 1556:24 gearing 1595:18				

1564:7 1583:21 1594:20 guarantee 1494:6 guess 1486:8 1489:18 1497:2 1508:21 1511:10 1525:5 1544:20 1581:11 1583:19 1586:14 1588:3 1589:6 1616:14 1616:22 guidance 1507:25 guideline 1519:22 guidelines 1462:10 1466:11 1506:17 1506:21 1509:6,9 1509:12,23 1513:3 1519:1 1586:7,11 gun 1607:7,8 guys 1470:11,12,17 1470:18 1471:14	1592:16 happening 1566:20 1581:12 happens 1565:1,8 happy 1543:6 1573:6 1580:9 hard 1464:9 1466:23 1469:8 1472:24 1512:9 1564:24 1573:12 1581:13,19 1584:18 1611:17 harder 1615:10 hardships 1579:7 harmful 1489:17 harvested 1564:8 harvesting 1564:6 hats 1535:25 haul 1487:19,25 1488:4 1490:6,13 hauling 1496:4,6,8 1496:10 having 1464:14 1473:21 1477:15 1489:21 1493:13 1529:16 1534:6 1535:19 1538:6,8 1545:8 1605:6 1606:4 1607:7 1615:20,23 hay 1565:2 Hazard 1515:19 Hazzledyne 1459:19 1590:7 1590:11,12,16,19 1600:20,22 1601:3,7,13,17,20 1602:6,25 head 1477:1 1516:10 1587:14 1609:15 health 1474:24 1478:23 1504:12 1504:13 1560:6,8 1587:9 healthy 1475:18 1476:7 1481:11 1537:23 hear 1532:22 1554:4 1602:16 1616:5 heard 1496:3 1515:1 1527:21 1527:22 1536:18 1571:15 1579:13 1583:12,12 1589:10,21	1592:3 1614:7,9,9 1614:10 hearing 1461:5 1472:21 1478:5 1532:14 1617:14 hearings 1464:21 1554:12 1571:13 1571:13,22 1573:3 heart 1567:25 heat 1595:10 heavier 1600:12 1601:21 heavy 1605:4,17,17 held 1458:17 1464:20 Hellman 1505:11 help 1463:9 1513:25 1514:11 1519:12,14,18,21 1525:23 1538:9 1542:22 1609:5 1614:19 1615:9 1615:16 helped 1614:20 helping 1475:17 1612:9 hen 1473:25 1481:24 hence 1593:7 Henervic 1603:13 hens 1474:4,19 1481:3 1484:11 1487:24 1502:3 her 1479:23 1482:5 1482:6,7,9 herbicide 1606:2 herd 1579:14 1595:17 hereinbefore 1618:10 heritage 1536:11 herself 1479:16 Hiebert 1459:16 1533:3,4,5,9,11 1535:10,12,22 1536:2,7,22,25 high 1474:23 1477:3 1507:5 1520:21 1529:16 1571:5 1585:22 1600:7 1604:9 1605:22,24 higher 1478:16 1483:19 1524:16 1529:17 1566:12 1582:2 1592:24	1615:1 highest 1493:13 1575:5 1576:4 highlight 1553:21 1557:3,14 1558:9 1574:3 1577:13 highlighted 1557:11 1564:11 highlighting 1554:11 Highline 1559:20 1560:5,11,12,13 highly 1522:23 1542:9 1569:16 1571:11,14 1572:20 highway 1608:21 him 1473:7 1484:5 1545:24 hire 1498:22 hiring 1534:12 historic 1536:13 1595:2 historical 1559:25 1560:3 historically 1598:8 hitherto 1597:10 hitting 1585:8 hockey 1475:22 hogs 1471:25 1474:1,2,4 1480:7 1484:11 1493:16 1498:13 1502:6 1504:8 1526:17 1526:21 1527:6 1527:10,15,24,25 1528:21,24 1529:4 1551:15 1580:16,20 1581:8 1591:9 1602:17 1604:2 1605:7 holds 1478:11 holes 1576:20 Holland 1600:24 home 1484:2 1502:3 1504:16 1534:1 1598:1 homeland 1494:18 1496:24 homes 1612:25 homestead 1465:13 hoops 1464:8 hope 1476:24 1514:16 1515:12 1519:24 1616:10 hopefully 1462:6	1520:4 1616:25 hoping 1612:12,13 horrible 1478:4 Hospital 1534:2 hot 1493:15 hour 1532:25 1533:1 1587:2 hours 1470:8,12 1475:25 1476:23 house 1471:13 1551:23 household 1612:25 houses 1471:14 huge 1476:21 1480:1,14 1504:1 1607:9 1611:25 human 1474:20 1482:18 1489:9 humane 1484:13 1491:23 1492:12 1492:17 humanly 1609:7 humans 1478:24 1484:12 humorous 1484:20 hundred 1465:12 1496:6 hundreds 1517:15 1529:20 hung 1595:11 hunger 1478:3 hungry 1475:17 hurts 1466:20 husband 1501:6 1502:8 1510:7 1513:6 Hytec 1560:6 1592:4 1601:8,14 1615:13 Hytek 1549:11 1550:6,8,14 1554:17 1555:10 1557:16 1559:11 1559:15,23 1568:15 1571:3 1574:5 1575:2,22 1586:3,16 1600:9 Hytek's 1553:25 1555:8 1563:4 1568:1 H2S 1587:15
<hr/> H <hr/>				<hr/> I <hr/>
H 1515:15 HACCP 1507:1 1512:19,20 1515:15,16,21 half 1469:9 1479:5 1481:17,17 1523:24 1526:21 1526:22,25 1528:21,24 1532:25 1582:7 Hamiota 1532:5 hand 1474:6 1484:10 1577:2 handful 1574:21 handle 1487:7 1515:23 1591:11 1593:4 handled 1516:15 handling 1492:13 1505:9,13,18,25 handout 1556:24 handy 1488:15 Hanover 1486:25 1501:10 1589:22 1604:3 1610:3 1616:19 happen 1477:9 1503:10 1510:16 1581:14 1598:7 1614:17 happened 1478:14 1478:20 1567:21 1583:17,18				idea 1479:24 1514:4 1530:3,11 1547:16 ideal 1616:23

ideally 1601:23	1564:3 1565:9	1611:17	inject 1559:12	1550:10 1557:1
identified 1477:21	1568:1 1570:15	increasingly 1597:9	1584:16 1607:14	Interlake 1531:22
1524:18 1555:25	1611:10 1612:17	incredible 1476:14	injected 1516:21,22	internal 1481:12
1583:7	impose 1520:25	incredulity 1479:8	1520:16 1584:9	1504:8 1505:15
identifier 1564:22	1523:1	incredulous	1613:2	1510:25 1555:8
identify 1507:15,16	imposed 1521:22	1485:13	injecting 1607:6	1555:20 1557:14
1562:8,10 1565:7	impossible 1476:15	incurred 1467:1	injection 1468:21	1559:11,19
illustrate 1541:7	1503:2 1606:7	1615:3	1552:5	1563:5 1567:18
ILOs 1551:17,24	1611:2	indeed 1476:8	injectors 1584:17	1571:4 1586:3
1552:4,8	improve 1476:18	1596:13	inlets 1482:22	internally 1559:12
image 1608:18	1512:7 1540:11	independent 1494:6	innovation 1491:21	1559:18
imagined 1476:5	improved 1505:22	1517:17 1519:8	1519:9 1577:19	international
imbalance 1578:8	1508:25 1534:22	1539:12	inorganic 1578:17	1519:5 1537:5
1583:11	1569:11	INDEX 1460:1	input 1477:15	internationally
Immediate 1556:9	improvement	India 1475:20	1539:13 1542:5	1508:3
immediately	1500:7 1507:16	1478:1	1563:1 1570:21	interpret 1538:9
1466:18 1484:3	improvements	indicate 1523:23	1572:18	interview 1477:1
1513:11 1519:21	1611:23	1553:23 1557:25	inputs 1528:8	intestines 1481:18
1556:10	improves 1608:5	1563:25 1564:25	1540:24	introduce 1461:8
immigrants	inadequate 1573:11	1566:7,9	insane 1483:10	1473:18 1476:18
1534:13	inception 1491:19	indicated 1469:21	Insecticides 1481:8	1549:12 1590:10
impact 1523:22	1558:12	1532:24 1565:24	inside 1493:18	1603:6
1525:10,11	inches 1506:22,23	1567:5,5 1584:9	inspect 1497:13	introduced 1521:14
1526:5 1533:24	incident 1561:22	indicating 1569:1	1507:4	1556:18
1534:3 1542:12	include 1492:9,23	indication 1566:10	inspected 1493:23	introduction 1550:4
1550:24 1551:17	1533:25 1604:18	1572:9	1494:5	invaluable 1508:2
1591:16	included 1505:8,10	indigestible 1597:3	Inspection 1492:14	inventory 1551:2
impediment 1488:6	1541:2	individual 1477:1	installed 1463:21	investment 1469:4
imperial 1566:19	includes 1510:17	1544:6 1560:9	1463:25 1469:22	1525:1
implement 1538:9	including 1462:15	1566:10	1505:11	invitation 1519:25
1558:19	1493:6 1494:17	individuals 1477:21	instance 1489:15	1520:4
implementation	1495:3 1501:25	1478:25 1544:15	1602:9	invite 1541:5
1525:21 1556:12	1533:15 1553:1	1546:2 1549:4	instead 1461:24	1580:5,7
1569:7	1563:3	industries 1466:14	Institute 1545:3	invited 1473:7
implemented	inclusion 1570:6	1466:22	instrumental	1586:9
1476:17 1495:10	1598:1	industry's 1579:15	1502:22	involve 1586:5
1507:18 1521:20	inclusive 1526:9	infested 1481:6,19	insurance 1548:3	involved 1467:21
1556:10 1558:23	income 1462:4	influence 1507:20	1562:23	1473:24 1474:1
implication 1597:25	1465:6 1503:20	1507:22 1542:13	intake 1482:20	1516:12 1603:13
1600:6	incorporate 1470:5	information	1595:24 1596:19	1603:17,20,21
implications	incorporated	1461:23 1479:4,5	intakes 1594:15	1606:1
1598:17 1599:4,8	1584:16	1521:9 1561:17	integrated 1540:4	involving 1571:6
importance	increase 1465:7	1562:2 1563:1	intending 1562:11	in-barn 1475:2
1501:21 1504:14	1512:12 1534:21	1564:19 1566:18	intense 1475:5	in-depth 1540:7
1504:17 1506:16	1581:7 1602:19	1567:18 1573:8	intensive 1462:17	in-field 1566:2
1508:22 1521:4	1605:15 1608:9	1573:15 1596:7	1463:16 1479:17	1576:9
1524:11 1533:19	1609:18	1598:25 1606:22	intent 1464:4	Iowa 1527:5,7,9,10
important 1478:21	increased 1505:21	informed 1508:5	intention 1461:16	1527:15,19
1479:4 1480:24	1511:6,23 1529:3	1614:21	intentions 1562:10	1606:9
1501:12 1502:18	1534:18 1552:3	initial 1540:20	interact 1476:16	ironclad 1477:11
1508:5 1522:6,9	1605:18 1609:13	1561:25 1562:19	interest 1518:16	irrelevance 1477:2
1534:10 1538:2,8	1610:11 1611:18	1562:9	1521:9 1537:20	ISO 1519:6,14
1553:16 1555:11	1613:6 1614:7	initiated 1488:19	1537:22 1552:12	isowean 1609:23
1557:19,21	1615:2	initiate 1492:8	1573:20	isoweans 1527:1
1558:2 1559:14	increases 1607:23	initiative 1509:5	interesting 1552:15	issue 1509:18
1560:15,23	increasing 1527:25	initiatives 1492:9	1615:23	1542:15 1554:25
1561:9 1563:10	1601:3 1611:15	1539:15	interests 1475:4	1556:21,23

1569:15 1570:5 1570:15,16 1576:14,16,17 1578:9 1603:5 1604:7 1611:10 1613:1 issued 1465:9 issues 1502:16 1504:15 1508:6 1526:3 1528:11 1554:20,21 1555:12,18,24 1556:2 1558:8 1560:17 1568:20 1571:11,16 1575:17,17 1578:11 1579:16 1581:19 1583:20 1595:15 1612:23 item 1567:24 1575:16 items 1554:12,23 1555:17 I.D 1564:25	Karen 1459:14 1500:25 1501:2,3 1501:6 keep 1481:10 1491:2,4 1498:25 1500:5,19 1538:21 1597:19 1608:19 1609:3,6 keeping 1481:22 1508:5 kept 1464:1 key 1557:4,13 1559:10 1568:5 1571:2,9 1572:2 1573:23 1574:2 1576:12 1584:9 1586:2 keys 1550:16 kids 1613:14,15 killed 1482:13 kind 1467:21 1498:5 1514:11 1548:25 1549:6 1567:8,25 1570:18 1575:21 1604:7 1607:13 1608:9 1610:10 King 1479:16 1480:13 kiss 1486:2 knowing 1510:10 1607:11 knowledge 1465:20 1465:22 1483:2 1539:10,24 1540:6,24 1542:21 1612:20 Koroluk 1552:15 1552:19 Kot 1618:6,15 kylates 1592:8,9	1489:2 1552:17 1552:20,21,22 1565:7,9 1585:17 1607:18,22 1608:4,5 1610:4 1614:8,24 lagoons 1552:25 1565:12 1608:2 lake 1523:20 1526:2 1526:3,5,11 1578:18 lakes 1489:19 1518:22 land 1462:2 1463:19 1465:13 1468:10,11,13 1469:10 1474:2 1487:6,9 1488:8 1488:18,24 1501:15 1504:13 1508:17,21,23 1518:17 1529:21 1529:22 1534:24 1535:1 1539:13 1542:22 1546:9 1547:6,7,10,10 1552:1,2 1559:3 1562:7 1564:10 1570:25 1571:12 1583:13 1584:12 1584:18,19 1586:1 1609:11 1609:24 1610:9 1612:7,8 1613:13 1615:11 Landmark 1486:12 1486:13 1487:15 1488:25 1490:4 1614:19 landowner 1562:9 landowners 1465:15 1562:10 lands 1487:4 1616:16 landscape 1550:24 1553:10 1558:23 1561:3,7 large 1475:24 1480:20 1486:19 1538:4 1593:20 larger 1480:12,19 1480:22 1585:17 largest 1492:20 1530:5,6 1533:13 Larry 1501:6 last 1472:18 1505:2 1522:18 1536:4	1546:17 1579:14 1585:19 1589:21 1591:16 1592:12 1598:6,11,14,19 1601:4 1614:2 later 1478:10 1522:6 1562:13 1563:17 1604:1 latest 1469:24 1483:2 1591:25 laws 1463:15 1582:25 lay 1509:11 layer 1486:22 1487:18 layers 1474:2 1482:15 1486:19 1491:1 laying 1473:25 1474:4,19 1481:24 1487:24 1502:2 1510:23 leach 1611:21 leaching 1606:20,25 1611:9,11 lead 1534:14 1593:13 leader 1492:6 1518:10 leadership 1508:9 leading 1467:21 leaking 1479:12 learned 1503:11 1549:23 leasing 1604:1 least 1506:7 1565:19 1588:11 1589:16 1599:19 leave 1489:15 1577:5 leaves 1528:25 left 1462:6 1475:11 1485:17 1551:1 1596:16 left-hand 1554:21 legal 1547:9 legislation 1538:19 legitimate 1541:10 legs 1485:18,18,20 leisure 1518:22 lengthy 1465:6 LePage 1551:17,21 less 1505:23 1516:6 1557:19 1558:16 1582:11 1588:15 1595:21 1599:18 1605:12 1612:5	1613:8 lesser 1565:18 let 1464:8 1481:3 1501:10 1505:4 1532:25 1544:21 letters 1515:16 level 1463:13 1464:1 1466:12 1538:3 1539:4,25 1576:4,4 1596:12 1599:9 1600:18 levels 1466:3 1505:19 1516:2,7 1516:8 1521:16 1524:25 1529:17 1529:17 1564:14 1567:13 1569:9 1569:10 1571:5,7 1587:6 1595:3 1597:24 1599:12 1601:16 liability 1544:22 1575:11 lice 1481:6 1482:24 licence 1462:23 1465:4,5 1570:12 licences 1463:21 1465:3 licensing 1569:23 life 1462:3 1476:4 1498:24 1499:1 1510:18 lifestyle 1480:10 lift 1584:17 lifted 1579:24 lighter 1605:25 lights 1483:23 like 1461:6 1464:9 1470:9 1471:12 1474:20,23 1476:10 1477:19 1481:23 1488:11 1490:22 1491:1 1497:16 1508:16 1509:17 1510:4 1513:10 1531:5 1531:19 1538:20 1541:4 1544:23 1545:17,17 1548:14 1554:1 1554:18 1555:4 1557:7 1559:24 1566:25 1567:10 1577:1 1579:4 1580:7 1595:13 1606:6 1608:21 1609:3,6,18
J				
James 1537:4 Jane 1459:16 1533:2,5,9 January 1465:9 1572:8 Janzen 1550:9 job 1508:14 1536:21 1548:16 1548:18 1549:2 1551:10 1561:3 1573:11,13,17 1590:20 jobs 1476:1 1527:18 1534:16 1551:7 1551:11 Johnson 1459:7 jointly 1493:3 Joyce 1532:25 1533:1 JRI 1548:15 jump 1464:7 June 1552:16 1553:5 jurisdiction 1576:7 1576:9 jurisdictions 1575:16,18 1576:6,18 1577:7	King 1479:16 1480:13 kiss 1486:2 knowing 1510:10 1607:11 knowledge 1465:20 1465:22 1483:2 1539:10,24 1540:6,24 1542:21 1612:20 Koroluk 1552:15 1552:19 Kot 1618:6,15 kylates 1592:8,9	1489:2 1552:17 1552:20,21,22 1565:7,9 1585:17 1607:18,22 1608:4,5 1610:4 1614:8,24 lagoons 1552:25 1565:12 1608:2 lake 1523:20 1526:2 1526:3,5,11 1578:18 lakes 1489:19 1518:22 land 1462:2 1463:19 1465:13 1468:10,11,13 1469:10 1474:2 1487:6,9 1488:8 1488:18,24 1501:15 1504:13 1508:17,21,23 1518:17 1529:21 1529:22 1534:24 1535:1 1539:13 1542:22 1546:9 1547:6,7,10,10 1552:1,2 1559:3 1562:7 1564:10 1570:25 1571:12 1583:13 1584:12 1584:18,19 1586:1 1609:11 1609:24 1610:9 1612:7,8 1613:13 1615:11 Landmark 1486:12 1486:13 1487:15 1488:25 1490:4 1614:19 landowner 1562:9 landowners 1465:15 1562:10 lands 1487:4 1616:16 landscape 1550:24 1553:10 1558:23 1561:3,7 large 1475:24 1480:20 1486:19 1538:4 1593:20 larger 1480:12,19 1480:22 1585:17 largest 1492:20 1530:5,6 1533:13 Larry 1501:6 last 1472:18 1505:2 1522:18 1536:4	1546:17 1579:14 1585:19 1589:21 1591:16 1592:12 1598:6,11,14,19 1601:4 1614:2 later 1478:10 1522:6 1562:13 1563:17 1604:1 latest 1469:24 1483:2 1591:25 laws 1463:15 1582:25 lay 1509:11 layer 1486:22 1487:18 layers 1474:2 1482:15 1486:19 1491:1 laying 1473:25 1474:4,19 1481:24 1487:24 1502:2 1510:23 leach 1611:21 leaching 1606:20,25 1611:9,11 lead 1534:14 1593:13 leader 1492:6 1518:10 leadership 1508:9 leading 1467:21 leaking 1479:12 learned 1503:11 1549:23 leasing 1604:1 least 1506:7 1565:19 1588:11 1589:16 1599:19 leave 1489:15 1577:5 leaves 1528:25 left 1462:6 1475:11 1485:17 1551:1 1596:16 left-hand 1554:21 legal 1547:9 legislation 1538:19 legitimate 1541:10 legs 1485:18,18,20 leisure 1518:22 lengthy 1465:6 LePage 1551:17,21 less 1505:23 1516:6 1557:19 1558:16 1582:11 1588:15 1595:21 1599:18 1605:12 1612:5	1613:8 lesser 1565:18 let 1464:8 1481:3 1501:10 1505:4 1532:25 1544:21 letters 1515:16 level 1463:13 1464:1 1466:12 1538:3 1539:4,25 1576:4,4 1596:12 1599:9 1600:18 levels 1466:3 1505:19 1516:2,7 1516:8 1521:16 1524:25 1529:17 1529:17 1564:14 1567:13 1569:9 1569:10 1571:5,7 1587:6 1595:3 1597:24 1599:12 1601:16 liability 1544:22 1575:11 lice 1481:6 1482:24 licence 1462:23 1465:4,5 1570:12 licences 1463:21 1465:3 licensing 1569:23 life 1462:3 1476:4 1498:24 1499:1 1510:18 lifestyle 1480:10 lift 1584:17 lifted 1579:24 lighter 1605:25 lights 1483:23 like 1461:6 1464:9 1470:9 1471:12 1474:20,23 1476:10 1477:19 1481:23 1488:11 1490:22 1491:1 1497:16 1508:16 1509:17 1510:4 1513:10 1531:5 1531:19 1538:20 1541:4 1544:23 1545:17,17 1548:14 1554:1 1554:18 1555:4 1557:7 1559:24 1566:25 1567:10 1577:1 1579:4 1580:7 1595:13 1606:6 1608:21 1609:3,6,18
K				
KAP 1484:21	1488:13,25	1522:18 1536:4	1605:12 1612:5	1609:3,6,18

1615:9 1616:3 likely 1613:8 likes 1601:8 limit 1465:16 1568:12,14 limitation 1565:4 1584:14 limited 1537:7 1560:6 1574:5 1592:6 limiting 1569:3 1574:19 limits 1557:24 1562:15 1566:11 1579:15 line 1469:4,9 1507:21 1525:20 1539:19 1543:9 liner 1463:22 lingering 1494:4 link 1518:18 linked 1495:1 liquid 1488:4 1505:10,24 1516:7,8,10 1531:3 1565:19 1584:11 liquids 1519:17 1530:11 list 1462:18 1513:7 1554:14 1592:25 listed 1541:5 listen 1479:13 1485:25 literally 1483:10 litter 1481:7 1594:21 little 1479:3 1484:20 1485:14 1488:12 1489:8 1504:23 1508:20 1516:4 1536:21 1550:22 1554:7 1556:23 1562:13 1563:16 1569:20 1572:25 1573:2 1582:2 1592:3 1593:16 1595:22 1603:25 1605:8 1605:25 1606:1 1614:22 1615:13 live 1477:13 1483:3 1486:11 1518:20 1535:1 1536:12 1611:8 1613:13 livelihood 1480:24 1510:18 1522:9	lives 1479:22 1534:3 livestock 1462:14 1462:17 1463:10 1463:17 1465:19 1479:17 1491:18 1491:20,23 1492:12,18,19 1493:4,10 1495:9 1497:13 1501:8 1503:21 1504:5 1509:1,8 1517:24 1519:11 1520:8 1534:15 1537:11 1537:21 1538:12 1538:24 1542:13 1558:10 1571:25 1572:3 1576:23 1588:24 1612:16 livestocks 1509:20 living 1475:7 1480:4,7,16 1481:1 1483:7 1503:8 1537:24 load 1487:24 1493:16 1500:1 loaded 1493:17 local 1517:20 1518:24 1534:13 1534:16,18 1540:15,16 1572:13 1574:14 located 1486:10 1487:21 1492:24 1493:5 1495:5 1497:19,21 1502:3 1535:2 1603:14 1604:3 1611:6 location 1493:2 1530:7 locations 1492:2 1493:2 1518:5 1530:3 1562:12 1565:25 1566:1 1567:3 Logically 1465:16 long 1475:25 1490:8,22 1499:20 1508:25 1524:12 1532:21 1572:23 1580:4 1595:12 longer 1490:18 1511:21 1559:1 long-term 1556:13 1604:24	look 1464:19 1482:4 1507:11 1522:14 1523:11 1524:6,8 1526:13 1526:14 1531:11 1541:6 1547:7,12 1547:13,18,19,21 1573:24 1581:23 1581:25 1582:2 1582:10 1608:21 1616:13 looked 1461:14 1485:3 1555:21 1577:24 looking 1484:17 1526:3 1530:12 1530:13 1531:5 1546:3 1547:9 1567:10 1591:1 1616:9,11,15 looks 1566:25 1593:2 loop 1576:20 lose 1564:8 losing 1466:22 loss 1465:6 1614:12 lot 1475:25 1478:3 1499:21 1515:7 1525:16 1561:17 1564:4,8 1565:15 1572:12 1573:17 1583:20,21 1591:3,19,21 1594:10 1599:10 1600:6 1610:9,13 lots 1496:19 1608:20 love 1471:20 1474:17 1503:24 low 1534:11 1569:25 1570:9 1595:2,6 lower 1594:14 1614:22 lowest 1597:5 lunch 1532:20 Lyle 1459:20 1603:6,8,9,13 lysine 1597:13,20 1599:11	1510:24 1511:21 1512:3 1515:6 1520:3 1541:18 1545:6 1548:1 1566:22 1587:22 1606:5 1610:11 1617:10 main 1508:10 1523:17 1597:24 mainly 1517:19 maintain 1464:3 maintained 1608:17 maintaining 1537:22 maintenance 1493:1,5 1511:21 major 1475:8 1477:24 1489:20 1505:4 1506:5 1517:18 1523:22 1525:12 1533:24 1605:15 1612:22 majority 1539:8 1559:20 1592:11 make 1480:3,16 1491:21 1497:5 1507:6 1514:11 1517:17 1523:14 1525:13,14 1532:23 1536:21 1539:18 1542:14 1545:25 1547:19 1569:8 1580:5 1586:21 1588:7 1608:16 1612:14 1617:7 makes 1485:4 1596:11 1608:6 makeup 1597:1 making 1475:7 1497:16 1501:14 1507:13 1510:1,2 1515:5 malls 1484:16 man 1503:9 manage 1487:2 1504:3 1505:22 1518:6 1519:15 1553:15 1557:19 1558:2 1570:23 managed 1529:6 1535:3 manages 1518:4 managing 1555:1,3 1558:24 1561:7 mandate 1543:10 manifestations	1475:1 1483:17 Manitoba's 1533:16 1535:4,8 1582:3,9,10 manner 1477:23 1480:11 1504:4 1542:20 1605:20 1611:19 manning 1482:3 manpower 1470:10 manufactured 1597:21 manufacturers 1579:6 1582:21 manufacturing 1517:23 1531:22 manures 1566:14 map 1563:23 mapping 1607:12 maps 1566:25 March 1552:19 Marg 1583:12 margins 1594:25 Marion 1581:17 mark 1585:8 MARKED 1460:3 market 1500:20 1502:24 1579:19 1580:24 1582:23 Marketing 1507:4 markets 1503:15 married 1510:8 Mary 1459:16 1533:2,5,9 match 1463:8 material 1531:3 1556:20 materials 1534:19 1593:3 matrix 1554:21 1556:22 1559:9 1571:1 1575:8 matter 1464:15 1472:3 1485:8,15 1488:22 1550:5 1605:16,18 maturing 1579:13 maximize 1520:16 1559:15 1605:3 maximum 1473:6 1504:6 1520:10 may 1465:18 1477:11 1493:21 1524:22 1526:4 1548:11,23 1602:17,17 maybe 1471:6
		M		
		M 1535:21 1578:15 1597:16 made 1482:11 1483:1 1488:5 1505:2,14		

1474:11 1514:2 1523:21 1524:16 1529:13 1546:19 1548:9 1574:21 1589:17 Mayor 1536:17 mean 1470:18 1471:3 1474:13 1499:2 1528:5 1536:8 1544:1 1583:5 1584:24 1584:25 1585:18 1588:2 1589:1 1613:25 1614:11 meaningless 1601:24 means 1489:14 1503:19 1511:7 1529:24 1599:16 measure 1465:23 1574:7 measures 1497:25 1579:10 meat 1527:24 mechanic 1475:12 mechanics 1475:13 1493:7 mechanism 1578:20 mechanisms 1578:12 media 1521:10 medication 1481:10 1482:20 medium 1556:12 meet 1462:5 1471:9 1493:11 1509:12 1509:24 1519:22 1525:24 1539:9 1541:12 1567:15 1568:9 1569:2 1572:23 1591:14 meeting 1484:21 1488:23 1525:2 1552:10 1553:8 1557:9 meetings 1476:9,9 1476:10 1477:19 1571:17 member 1459:5,6 1560:6,16 1612:13 members 1491:17 1519:24 1533:14 1541:14 1545:6,9 1549:19 1553:15 1556:5 1557:5 1573:24 1603:21	1604:18 membership 1541:13,15 men 1484:22 mention 1505:5 1527:4 1557:4 mentioned 1468:20 1469:16 1486:18 1496:23 1504:20 1510:22 1530:2 1562:22 1563:20 1584:22 1586:2 1586:16 1593:5 1599:12 MEP 1481:22 mesh 1530:23 message 1495:16 1598:1 met 1464:23 1471:11 1474:21 1485:12 1521:24 metabolizable 1598:9 meter 1566:18 1567:4 1587:6 Meters 1560:1,4 methane 1587:15 methionine 1597:13 1597:16,20 1599:11 methodology 1525:2 methods 1476:19 1478:19 Mexico 1480:5 MIA 1545:7 Mick 1590:6,11 might 1472:8 1486:1,6 1490:17 1500:4 1503:22 1523:9,11 1543:16,17 1586:24 1589:2 1602:18 1612:25 1615:14 mike 1459:19 1564:21 1590:16 mile 1469:9,10 miles 1551:23,25 1603:15 1608:2 mill 1595:13 million 1517:25 1518:2,3,7 1526:21 1527:18 1528:21,24,25 1551:4,8 1580:20 1612:2	millions 1475:19 1481:7 1529:15 mills 1517:23 mind 1489:7 1510:15 1602:11 1602:20 mine 1568:21 1569:20 mineral 1592:17 minimize 1520:17 1597:4 minimizing 1538:2 1591:15 minimum 1530:4 1540:12 1560:4 1560:21 1568:22 1585:17 1586:22 1597:19 1601:22 Minister 1579:22 minute 1532:13 1592:22 minutes 1592:4 mirth 1479:8 misheard 1468:7 mislead 1467:5 1468:5 misleading 1468:7 misrepresentation 1553:12 missed 1543:17 mistreatment 1484:7 misunderstanding 1601:13 Mitchell 1608:25 mitigate 1562:19 mixed 1501:7,25 model 1593:14,15 modeling 1600:3 moderate 1462:2 modern 1482:2 Modifications 1514:8 molecule 1592:7 moment 1468:23 1591:4 1598:7 moments 1486:6 1505:5 Monday 1617:12 money 1473:12 1475:24 1545:5 1593:21 1594:10 1596:4 1599:21 1610:13 monitor 1466:12 monitored 1462:25 1463:4 1464:3	1465:24 monitoring 1611:13 monitors 1466:7 1493:25 mono 1599:13 monocalcium 1592:21,23 1593:6 monoxide 1587:15 month 1493:4 1531:7 1553:5 moral 1485:24 moratorium 1466:17,18 1467:4 1589:13 1610:1,2,15 moratoriums 1578:10 morning 1461:3,6,7 1473:14,17 1491:16,19 1500:22 1501:5 1504:21 1510:20 1517:14 1532:21 1533:4 1536:24 1537:2,19 1538:22 1554:3 1569:22 1590:19 1603:12 1617:11 Morris 1537:7 mortalities 1462:14 1519:12 1558:10 mortality 1483:17 most 1466:13 1469:25 1470:12 1470:16,21 1475:21 1477:2 1481:24 1483:3 1495:5 1496:7,22 1518:21 1522:23 1531:12,13 1537:21 1550:4 1565:12,14 1574:6 1578:24 1588:12 1591:21 1592:9 1596:6 mostly 1499:12 1545:13 1584:12 1605:13 Mother 1503:6 move 1494:23 1556:19 1579:1,8 1579:25 1584:1 1593:8 1609:11 moved 1538:20 1592:20 1607:3 1609:17	movement 1607:3 moves 1571:20 moving 1506:8 1535:18 1552:10 1598:13 mowed 1608:17 MP 1602:20 multiple 1561:23,24 1585:14 multiplier 1551:11 multitude 1461:21 multi-cell 1565:12 multi-disciplinary 1578:15 municipal 1462:17 1463:13,16 1487:15 1499:7,8 1499:21 1545:20 1551:5 1571:24 1588:21 municipalities 1471:18,25 1499:14 1508:23 1509:16 1572:7 1572:13 1588:23 1589:11 municipality 1464:10,12,17,18 1464:20,20 1467:14 1469:23 1470:23 1471:1,7 1472:10,15 1486:10,13,24 1488:22 1490:3 1499:11 must 1462:5 1477:3 1478:22 1509:2 1518:13 1521:6,8 1521:9,19 1522:3 1522:22 1536:20 1540:11 1541:16 1579:24 1588:23 1597:5 myself 1539:13 1545:18 1602:12 1614:4
N				
N 1559:15 nail 1512:9 naive 1476:4 name 1461:16 1473:20 1474:12 1491:10 1501:1,6 1517:5,6 1533:4 1537:3 1546:17 1590:11 1603:8				

1603:12 narrow 1479:1 national 1492:11 1543:12 nationwide 1492:16 natural 1608:24 1609:3 naturally 1475:25 nature 1503:6 1521:11 1543:5 1571:17,22 near 1486:5 1497:19 1501:9 1552:18 1567:25 nearby 1586:13 nearly 1464:25 necessarily 1487:6 necessary 1465:3 1508:24 1509:13 1515:4,8 need 1468:11,12,13 1469:11 1477:6 1478:20 1480:10 1502:16 1520:9 1529:13,22 1530:18,21 1532:21 1538:13 1547:24 1562:19 1568:23 1569:14 1570:15,22 1572:14 1578:9 1578:19 1579:3 1579:21 1582:9 1584:1,18 1591:8 1591:8,10 1594:5 1598:11 1604:19 1610:9 1612:18 needed 1481:8 1525:23 1529:23 1529:23 1556:10 1574:2 1578:11 1580:1 needs 1462:5 1474:21 1475:21 1523:15 1529:22 1541:13,13 1569:2 1572:6 1581:15 1594:4 negative 1573:7 1607:19 negligible 1483:18 neighboring 1552:6 neighbour 1464:5 neighbours 1476:18 1487:16 1571:18 1574:14 1610:24 1611:3 1612:8	1613:5 nervous 1483:8 net 1598:13,17,20 1599:6 1602:7 Netherlands 1593:2 1593:22 neutering 1484:14 neutralized 1488:16 1489:13,17 never 1473:8 1476:4,24 1477:4 1479:16 1503:9 Nevertheless 1524:10 new 1464:12 1475:5 1478:19 1493:16 1502:5 1503:12 1503:14,14 1509:8,20 1510:23 1511:5 1512:1,13 1514:7 1519:18 1521:14 1521:17,19,21,22 1522:2 1524:20 1525:1,8,22 1534:1,1,13,22 1535:11 1570:22 1571:9 1588:22 1591:2 1599:7 1602:1,4 1608:7 1609:9,11,21 newer 1511:2 news 1599:19 next 1484:8 1503:10 1531:6 1532:25 1533:2 1537:1 1549:11 1553:4,7 1573:21 1590:6 1604:15 nice 1605:23 1606:10 1608:19 1608:20 night 1589:21 nine 1489:9 1558:16 nipple 1483:1 nitrate 1564:14 nitrogen 1516:7 1524:14,15 1548:8 1559:14 1577:16,17,21 1579:2 1583:23 1583:25 1590:24 1591:20,20 1596:14,16,24 1597:4 1598:3,24 1599:1,16 1600:1	1600:8,13 1602:14 1606:6 1607:3,23 1608:6 1608:9 1609:10 1614:7 Niverville 1501:9 1517:20 nobody 1480:23 1497:8 1613:10 non 1483:16 nonsense 1601:24 non-compliance 1477:18 non-covered 1608:4 non-government 1550:19 normal 1466:21 1475:1 1553:6 normally 1490:22 1597:11 north 1492:21 1522:25 1543:21 1575:24 1603:1 northern 1583:9 1592:11 northwest 1603:15 note 1467:16 1473:2 1532:19 1565:10 1590:7 noted 1510:24 1614:14 notes 1567:21 1618:9 nothing 1529:7,8 1607:4 notice 1484:7 1566:18 noticeable 1605:24 1607:1 noticed 1484:3 1486:18 1512:11 1606:4 notion 1552:7 Nova 1560:1,4 1566:18 novelty 1570:10 November 1519:20 1521:15 1524:21 1525:4 nth 1465:25 nuisance 1574:6 1597:19 number 1486:19 1494:17 1498:5 1527:14,25 1532:5 1535:16 1546:8 1562:2	1571:10 1581:8 1582:16 1587:2,3 1588:15 1592:17 1598:13 1599:25 1600:4,10 1604:24 numbers 1483:1 1523:23 1524:1,3 1582:6,8 1614:22 numerous 1518:5 1530:2,13 1573:5 nursery 1603:25 1604:1 nutrient 1520:9 1540:3 1556:15 1556:23 1557:12 1558:9 1561:15 1562:3,5,6 1563:19 1565:17 1566:5,20,23 1567:12,13 1568:3,9,11,13,14 1569:3,17 1578:12 1585:20 1591:6,9,10,14 1607:13 nutrients 1463:8 1558:25 1561:6 1562:18 1564:7 1578:17 1605:3 1606:20,25 1607:9 1611:10 1611:11 nutrition 1482:19 1590:13,14 1591:2 1592:1 nutritionist 1590:20 nutritionists 1594:1 nutritionist's 1591:7 nutritious 1474:24 N1 1547:11 N2 1547:11 N3 1547:12 <hr/> O <hr/> oath 1533:8 objective 1520:23 1521:7 1522:15 objectives 1508:10 1541:3,7 1553:14 objectivity 1520:22 observations 1574:25 observed 1480:7 1482:7 1552:1 obtained 1462:22	1463:14,21 obvious 1489:6 obviously 1515:22 1545:16 1589:15 1591:16 1605:6 1606:10 1607:18 1608:5,10,13,14 1610:8 1611:13 1614:1 1616:23 occasions 1467:17 occurred 1506:25 1558:20 1567:22 occurs 1509:1 odour 1463:10 1469:24 1505:18 1520:18 1574:1,6 1574:19,21 1575:1 1586:15 odours 1469:13 off 1465:13 1490:11 1490:16 1499:15 1499:17 1503:4 1514:24 1516:9 1527:1,2 1534:13 1537:19 1554:6 1554:14 1559:25 1574:4 1587:14 1596:14 offend 1515:12 offer 1501:12 offered 1539:3 1606:16 1607:21 office 1477:3 1493:7,9 1517:24 officers 1576:13,15 offices 1497:13 officials 1525:17 off-farm 1551:11 often 1475:9 1477:8 1479:3 1481:5,11 1542:4 1595:19 1613:20 oh 1472:5 1482:5,5 1490:25 1511:3 1516:17 1535:24 1580:15 okay 1468:1 1490:25 1497:18 1512:23 1516:24 1517:1 1532:7,11 1537:18 1546:5 1546:14 1547:11 1549:4 1554:4 1577:11 1580:15 1581:21 1582:13 1587:19 1601:11 okayed 1471:2
--	--	--	---	--

old 1485:8 1489:3 1505:7 1593:17 1599:7 1602:2 older 1565:13 1600:8 once 1472:23 1515:3 1547:2,6 1547:17 1585:10 1585:12 1605:10 ones 1481:19 1545:14 1565:18 ongoing 1550:20 only 1475:22 1478:6 1482:10 1482:12 1486:8 1489:10 1492:19 1495:12 1497:12 1502:20 1504:12 1504:15 1505:16 1511:1 1512:2 1513:22 1519:14 1521:24 1524:14 1530:25 1545:24 1548:19 1549:22 1552:22 1560:2 1573:10 1574:20 1576:7,9,11,12 1588:8 1605:9 onto 1485:11 1487:24 1579:2 1606:8 1612:7,8 1613:14 on-farm 1506:17 1507:2 1577:16 on-field 1564:12 1565:23 1584:22 1585:3,4,7 1587:23,25 1588:8 on-site 1493:23 1573:14 open 1465:15 1557:8 1569:16 opening 1577:5 operate 1462:1 1474:9 1499:3 1501:7 1504:18 1550:20 1574:23 1577:8 1582:13 operated 1577:6 operates 1518:4 operating 1462:10 1517:19 1553:7 1575:3 1586:24 1588:25 1590:21 operation 1462:3 1465:8 1473:25	1479:17 1486:20 1486:22 1487:18 1488:3 1499:9,22 1501:8 1502:2,3,5 1504:24 1507:10 1507:12 1511:13 1527:5 1530:4,23 1531:4,23 1580:16 1581:2 1585:16,18 operations 1466:21 1473:25 1474:3 1498:17,20 1501:13 1503:19 1503:25 1506:4 1509:9 1514:1 1519:19 1520:9 1527:10 1531:18 1531:21,25 1532:3 1538:12 1544:2 1545:14 1545:17 1550:15 1557:17,20 1565:6,13,13 1574:23 1575:23 1583:23 1587:6 operator 1477:10 1511:15 operators 1511:11 opinion 1478:24 1482:7 1509:18 opportunities 1495:23 1550:21 1609:1 opportunity 1466:19 1476:10 1477:15 1501:11 1507:11 1510:20 1517:13 1521:1 1522:13 1534:19 1538:22 1557:8 1577:23,25 opposed 1608:4 optimistic 1616:4 optimum 1474:19 1475:1 1504:4 option 1512:14 1538:21 options 1485:16 1579:21 1616:14 order 1463:3 1465:18 1466:4 1502:14 1519:12 1563:14 1576:21 ordered 1464:18 orders 1565:22 organic 1529:18	1578:17 1588:10 1605:16,18,19 1611:19 organics 1588:7 organization 1461:18 1541:11 1545:1 organizations 1477:21 1478:25 1508:10 1539:18 1545:3 organized 1477:20 1508:9 orientation 1494:13 original 1579:18 other 1471:21 1473:3 1476:1 1483:16 1484:10 1489:18 1490:1 1492:22 1495:3 1496:12,13 1500:18 1511:8 1513:22 1523:10 1525:5 1526:25 1531:5 1534:5 1535:25 1539:18 1539:21 1541:10 1545:2 1566:17 1575:16,18 1576:18 1581:6 1583:13 1584:11 1589:10 1592:13 1592:16 1607:22 1608:13 1609:23 1614:20 1615:14 1615:15 1616:9 1616:11,14,16 others 1481:4 1541:24 1597:15 Ottawa 1477:4 1513:4 ought 1484:15 ourselves 1493:13 1498:23 1507:17 1510:14 1550:17 1553:14 1555:21 1558:17 1559:21 1560:23 1587:8 outlay 1513:23 output 1526:23 1568:14 1570:4 1590:24 1597:4 1599:16,17 1600:13 1602:14 outward 1475:1 1483:17 over 1462:6	1465:22 1482:6 1484:8 1496:5 1502:19 1503:10 1505:2 1513:16 1533:1 1545:23 1550:14 1551:4,5 1551:6,8,14 1552:17 1554:10 1562:18 1566:4,5 1566:6,20 1568:13 1571:15 1571:15 1574:22 1575:12 1585:25 1598:7 1605:21 1615:9 overall 1465:25 1505:21 1552:6 1562:24 1596:1 overestimates 1598:10 overheads 1556:4 overlap 1548:24 oversimplifying 1548:10 overstated 1533:20 overview 1550:3 1554:17 1561:16 1575:13 own 1487:8,9 1490:21 1498:19 1498:21 1501:7 1501:18 1503:23 1506:9 1507:12 1507:14 1523:21 1535:19 1540:8 1549:5 1555:20 1559:18,19 1568:2 1603:24 1605:13 1608:24 1612:7 1614:25 owner/operator 1563:8 owner/operators 1493:9 owns 1518:4	papers 1598:14 1602:8 paperwork 1497:3 parameters 1555:10 1587:12 1587:17 part 1466:8 1486:17 1496:22 1501:23 1508:11 1526:12,15 1532:3 1534:25 1538:13 1542:2 1563:4,10 1564:11 1565:10 1565:14 1580:5 1588:13 1608:22 participants 1609:2 participated 1606:14 participates 1534:12 particle 1595:15 particular 1474:6 1477:20 1513:19 1536:9 1543:16 1552:20 1585:11 1586:17 1593:1 1594:11 1606:24 particularly 1508:12 1533:17 1536:10 1581:5 1595:16 1617:10 partner 1473:3 partnering 1578:23 Partners 1590:14 partnership 1578:14,21 parts 1465:23 1474:11 1495:4 1534:5,8 1550:4 1576:19 1581:16 1593:18 1612:1 party 1494:6 1519:8 1538:18 1542:19 pass 1540:1 1554:1 1613:10,14 passed 1556:18 passion 1474:11 passionate 1474:14 past 1479:21 1480:18 1499:20 1524:24 1569:25 1574:10,16,22 patient 1549:24 patterns 1503:13 1567:3
--	--	--	--	--

pause 1494:21 1495:10 1520:25 1579:15,23 1583:16	pests 1481:12 pet 1568:20 1569:20 Peters 1459:13,20 1491:10,12,12,13 1491:16 1496:2,5 1496:9,13,17,22 1497:2,21,24 1498:2,7,13,20 1499:1,4,13,24 1500:6,12,17,24 1603:6,8,8,9,12 1603:13 1613:17 1613:22 1614:18 1615:8 1616:1,17 1617:5	piece 1469:10 1479:6 1488:8,24 pig 1590:20,23 1594:20 1596:11 1598:9,16 1610:25 pigs 1472:12 1480:4 1518:7 1528:21 1580:17 1582:16 1591:14 1594:10 1594:13,14,14,19 1599:2 1600:8 1601:21 1604:25 1612:4 pile 1490:8,20 Piney 1467:15 pinpoint 1555:18 pioneered 1519:10 pit 1488:3 1505:11 1571:18 place 1488:20 1495:22 1508:20 1509:10,22 1512:21 1513:11 1525:9,16,22 1531:8 1538:7,8 1546:12 1548:2,6 1552:17 1558:16 1567:12 1576:25 1585:24 1618:10	1557:15,16 1560:22 1562:20 1563:5,9 1572:8 1572:16 1574:13 1588:21,21 1589:6 1613:25 1616:6,8 plant 1478:15 1514:14 1520:17 1528:23 1581:7 1581:17,17 1588:12 1592:6 1606:5 plants 1496:15,18 1520:14 1597:22 plastic 1607:19 play 1528:16 1583:1 players 1527:14 please 1461:9 1473:18 1491:11 1500:25 1517:5 1532:17,25 1549:12,24 1573:24 1594:12 1603:7 pleased 1500:3,6 1506:24 1520:24 1525:21 plenty 1598:24 Plett 1459:12 1473:16,17,20,20 1473:21,24 1486:4,9,11,21 1487:5,12 1490:5 1490:10,23 1491:1,9 plug 1488:15 1489:13 1572:25 plumber 1479:11 1479:13 plumbing 1479:12 plus 1539:17 1540:6 1556:13 1597:16 1597:16 point 1474:6 1500:15,18 1511:2 1515:20 1545:7 1554:2 1558:14 1564:20 1567:1 1570:18 1574:19 1576:12 1586:10 1587:11 1596:22 1603:4 1616:25 points 1466:9 1557:13 1559:10	1565:24 1568:5 1571:2 1573:23 1574:2 1584:9 1586:2 poison 1489:16 pole 1485:19,21,23 policies 1494:15 1538:12 1555:9 1555:21 1559:11 1563:5 1575:2 policing 1513:18 policy 1538:20 1557:14 1559:12 1578:7 1588:25 political 1576:19 1582:1 politicians 1612:24 population 1478:6 1595:22 1615:22 pork 1461:20 1466:8 1492:11 1551:10 1602:18 1612:3 portion 1555:16 1560:9 1571:1 1575:8 1576:24 1588:8 portions 1565:18 position 1479:3 1534:6 positive 1492:8 1533:24 1550:17 1571:20 1573:7 possibility 1520:17 1579:18 1604:25 possible 1463:11 1478:21 1487:8 1490:11 1495:20 1513:12 1520:16 1552:4 1579:23 1597:6 1607:15 1609:7 1610:12 1612:24 1615:8 possibly 1512:15 1531:5 1602:16 posting 1463:12 potential 1497:9 1538:14 1553:24 1555:24 1571:23 poultry 1486:12 1502:2 1503:19 1503:25 1504:24 1506:3,8,19 pounds 1548:8 1566:8 1607:24 1607:24 1608:3 1612:3 1615:1
pauses 1578:10 pay 1545:8 1615:23 payroll 1517:25 peak 1586:25 peeve 1568:21 1569:20 pen 1589:24 pending 1465:4,5 people 1473:4 1475:17,19 1476:5 1484:25 1484:25 1485:7,7 1485:12,12,14 1488:9 1492:1 1493:3,6 1512:3 1515:8 1517:20 1517:22 1523:17 1525:18 1527:8 1531:11 1534:13 1534:16 1537:21 1538:8 1550:14 1550:16 1551:15 1558:4 1564:4,8 1573:17 1575:21 1594:6 1611:12 1617:10 percentage 1596:8 1596:20,21 1599:1 1600:7 perform 1589:5 performance 1505:21 1511:6 1512:12 1541:2,7 performs 1557:16 period 1463:24 1559:6 permit 1463:14,15 1464:10,13,22,24 1465:4,5,9 1471:13,15 permits 1508:18 person 1475:21 1560:5,12 1586:20 Personally 1509:19 personnel 1555:1 persons 1472:9 perspective 1501:13 1553:25 1591:7 1595:2 pertinent 1461:21 pest 1540:4 Pesticides 1462:12	ph 1606:22 phase 1568:6 phos 1566:15 phosphate 1489:20 1489:22,23 1590:24 1591:21 1592:20,21,24 1593:5,6 1599:17 1600:1,13 1601:16 phosphates 1489:15 1489:15 phosphorous 1519:18 1564:14 1569:11 1570:7 1577:24 1578:3 1583:3 1592:2,6 1594:17,18 1595:18 1596:1 1607:2 1608:8 1611:1,22 1615:4 physical 1474:24 phytase 1568:14,19 1569:5,7,10,19 1570:6,21 1592:4 1592:9,10,12,14 1593:10 1595:9 1596:20,21 1599:11,13 1601:25 1608:14 phytases 1595:9 phytate 1569:25 1570:9 phytic 1592:7,10 pick 1559:10 1573:23 1574:2 1576:3 picture 1553:4 1565:5,6 pictures 1552:13,13 1553:7	planned 1610:20 planner 1537:13 1543:3 1563:6,9 planners 1544:13 1558:7 planning 1462:11 1463:19 1502:12 1506:2,19 1508:7 1508:17,22,23,25 1509:2 1510:14 1538:11 1542:3,7 1544:10 1547:21 1549:3 1571:1,12 1572:1,2 1574:14 1586:2 1588:22 1614:19 plans 1538:19	1557:15,16 1560:22 1562:20 1563:5,9 1572:8 1572:16 1574:13 1588:21,21 1589:6 1613:25 1616:6,8 plant 1478:15 1514:14 1520:17 1528:23 1581:7 1581:17,17 1588:12 1592:6 1606:5 plants 1496:15,18 1520:14 1597:22 plastic 1607:19 play 1528:16 1583:1 players 1527:14 please 1461:9 1473:18 1491:11 1500:25 1517:5 1532:17,25 1549:12,24 1573:24 1594:12 1603:7 pleased 1500:3,6 1506:24 1520:24 1525:21 plenty 1598:24 Plett 1459:12 1473:16,17,20,20 1473:21,24 1486:4,9,11,21 1487:5,12 1490:5 1490:10,23 1491:1,9 plug 1488:15 1489:13 1572:25 plumber 1479:11 1479:13 plumbing 1479:12 plus 1539:17 1540:6 1556:13 1597:16 1597:16 point 1474:6 1500:15,18 1511:2 1515:20 1545:7 1554:2 1558:14 1564:20 1567:1 1570:18 1574:19 1576:12 1586:10 1587:11 1596:22 1603:4 1616:25 points 1466:9 1557:13 1559:10	1565:24 1568:5 1571:2 1573:23 1574:2 1584:9 1586:2 poison 1489:16 pole 1485:19,21,23 policies 1494:15 1538:12 1555:9 1555:21 1559:11 1563:5 1575:2 policing 1513:18 policy 1538:20 1557:14 1559:12 1578:7 1588:25 political 1576:19 1582:1 politicians 1612:24 population 1478:6 1595:22 1615:22 pork 1461:20 1466:8 1492:11 1551:10 1602:18 1612:3 portion 1555:16 1560:9 1571:1 1575:8 1576:24 1588:8 portions 1565:18 position 1479:3 1534:6 positive 1492:8 1533:24 1550:17 1571:20 1573:7 possibility 1520:17 1579:18 1604:25 possible 1463:11 1478:21 1487:8 1490:11 1495:20 1513:12 1520:16 1552:4 1579:23 1597:6 1607:15 1609:7 1610:12 1612:24 1615:8 possibly 1512:15 1531:5 1602:16 posting 1463:12 potential 1497:9 1538:14 1553:24 1555:24 1571:23 poultry 1486:12 1502:2 1503:19 1503:25 1504:24 1506:3,8,19 pounds 1548:8 1566:8 1607:24 1607:24 1608:3 1612:3 1615:1

<p>power 1475:13 powerful 1576:15 practical 1543:5 practice 1506:17,20 1534:25 1568:6 1571:3 1596:4 1600:16 1608:12 practiced 1556:9 practices 1462:13 1477:17 1495:19 1509:6,23 1519:2 1519:10 1539:9 1540:18 1553:19 1553:21 1555:14 1555:23 1565:10 1574:4 1605:1 1606:16 1608:14 practising 1537:11 1571:10 Prairie 1537:9 1541:11 1602:8 prairies 1581:14 precedence 1541:24 precipitation 1564:3 1567:20 precisely 1474:18 predict 1581:13 prefer 1481:2 1489:3 1593:24 Premiere 1590:12 preparation 1540:20 prepare 1522:1 prepared 1525:19 presence 1552:8 present 1461:25 1491:18 1494:4 1517:14 1522:13 1550:6 1581:24 presentation 1472:19 1473:13 1474:15 1486:17 1495:15 1496:2 1500:23 1514:23 1527:4 1532:24 1536:17 1550:2 1553:13 1581:25 1590:25 1591:5 1592:5 1600:9,15 1601:15 1602:16 1613:19 1616:3 1617:5,8 presentations 1459:10 1532:22 1552:11 1590:8 1617:10 presented 1461:11</p>	<p>1473:21 1491:13 1501:3 1517:9 1533:9 1537:16 1549:17 1553:8 1590:16 1598:14 1603:9 presently 1545:24 preserve 1501:15 1501:23 1542:22 president 1484:22 1517:7 1533:5 pressing 1530:23 pressure 1494:16 1607:20 1615:19 pressures 1521:9 pretty 1469:7 1471:10 1472:8 1472:24 1479:19 1486:5 1500:2,6 1512:11 1549:25 1573:16 1585:15 1600:4 prevail 1535:6 prevent 1476:6 1520:15 preventing 1466:20 prevents 1466:19 1472:1 previous 1489:1 1562:16 previously 1562:22 1563:19 price 1606:6 1608:9 prices 1502:24 1551:23,25 1552:2 1599:20 1600:2 pride 1475:15 1493:13 primary 1493:2 1526:6 1565:8,15 1566:15 1607:15 principles 1540:6 print 1564:24 prior 1493:16 1536:5 1576:8 priority 1491:22 1508:15 privilege 1491:17 probably 1485:10 1490:12 1498:15 1498:21 1511:11 1543:8 1573:9 1589:19 1591:3 1601:7 1604:16 1611:4,23 1617:1 problem 1479:10</p>	<p>1481:9 1496:25 1538:14 1545:10 1595:12 1601:18 1601:20 1611:25 problems 1477:8,12 1489:21 1526:2 1595:1,3,8,11 1596:2 1597:18 procedures 1477:17 1493:25 1520:2 1521:13 1575:3,3 proceedings 1458:9 1610:7 process 1465:5 1467:21 1493:16 1493:20 1508:22 1509:7,23 1515:3 1515:4,6,7 1545:20 1547:9 1547:21 1548:1 1549:4 1554:23 1555:2,4,8,9 1557:22 1558:1,3 1558:25 1560:18 1560:20,24 1561:4,7,11,13,16 1561:19 1563:18 1564:4,12,13 1571:6,24 1572:1 1572:11,14,20 1573:1,2,4,10,18 1600:20 processes 1494:3 1508:19 1509:9 1509:21 1555:19 1610:14 processing 1496:15 1496:17 1528:15 1528:19,22 1529:2 1579:20 1581:7,15 produce 1474:21 1481:3 1518:6 1528:20 1529:4 1602:18 1606:9 produced 1477:22 1520:8 1615:21 producer 1461:25 1462:9 1466:15 1466:25 1472:17 1483:25 1545:22 1546:24 1562:24 1569:2 1615:24 producers 1466:2,7 1466:10,19 1474:16 1476:16 1492:11 1495:12</p>	<p>1498:3 1504:7 1506:15 1507:24 1508:1,5,8 1509:7 1509:12,24 1513:2,14,18 1517:17 1527:8 1537:12 1542:3 1544:14 1558:17 1559:2 1560:24 1576:23 1583:13 1601:10 1608:18 producing 1503:16 1504:5 1513:20 1612:4 product 1466:5 1570:14 1606:6 production 1458:3 1474:19,25 1477:25 1478:19 1479:2 1483:18 1484:9 1504:6 1511:10,24 1512:7 1517:18 1540:24 1564:6 1565:1,10 1568:8 1584:20 1612:2 productive 1584:19 1594:20 1595:20 1597:8 products 1503:15 1612:25 professional 1539:2 1541:11 1542:20 professor 1481:14 profitable 1550:11 1613:9 program 1492:10 1492:11 1507:2,2 1512:19,20,21,25 1513:19 1514:18 1538:24,25 1539:4,11,23 1540:14,21 1541:11,22 1543:7,12,12 1598:12 1600:11 1606:15 programs 1506:18 1513:24 1514:13 1539:2 progress 1478:22 progressive 1518:25 project 1464:9,25 1464:25 1478:3 1610:11 promoting 1484:13</p>	<p>pronounce 1549:23 propagated 1479:3 proper 1463:2,12 1478:7,9 1506:11 1506:12 1538:7,8 properly 1494:14 1529:7 1535:2 1573:11,13 1579:4 properties 1551:18 property 1505:22 proposed 1572:22 1612:19 prosperity 1534:9 protect 1466:23 1478:21 1508:12 1509:2,10 1510:6 1519:12 1540:19 1541:17 1560:7 protected 1472:12 1518:13 1587:9 protecting 1504:17 1510:17 1525:7 protection 1462:12 1462:13 1518:11 1518:19 1540:25 protein 1596:25 1597:2,6,24 1598:2,10,18,22 1599:14 proteins 1482:17 protestation 1484:17 protocols 1493:25 1494:12 proud 1576:24 prove 1604:22,23 proven 1577:14 proves 1607:25 provide 1491:22 1492:22 1495:2 1495:20,24 1504:4,6 1539:19 1561:5 1579:22 1580:1 1589:4 provided 1461:20 1463:2 provider 1542:19 providers 1538:18 provides 1537:24 1561:2 1569:23 providing 1521:17 1535:17 1539:4 1548:10 province 1462:20 1462:22,23,25 1463:2,5,7</p>
--	--	---	--	---

1466:11,14,15,25 1467:5,8 1471:6 1471:24 1495:12 1495:14,22 1501:21 1510:2 1511:13 1538:16 1548:6 1554:13 1572:6 1574:24 1576:16 1578:10 1589:11 1618:7 provincial 1462:16 1463:15 1465:2 1509:5 1518:24 1537:23 1578:9 1583:4 1586:11 provisions 1463:20 proximity 1465:17 1518:21 1551:24 1552:3 public 1464:16,21 1467:5 1476:11 1482:1 1521:3 1538:4 1540:19 1541:18 1542:17 1553:12 1561:2 1572:17,18 1580:2 1591:22 1608:19,22 1612:20 1615:19 1615:20 publication 1595:5 published 1591:22 1592:25 1594:10 1594:16 1596:7 1596:23 1598:25 pull 1488:15 1607:7 pulled 1489:14 1571:2 pullet 1488:3 pump 1469:7 1487:19,20 1585:2 pumped 1516:11 pumping 1559:19 1559:20,21 1560:13,14 1609:13,14,15 1610:11 pumps 1469:4 puppy 1484:18 Puratone 1517:7,15 1517:18 1518:9 1519:8 1520:21 1521:25 purchased 1488:25 1495:5 purchases 1534:18	purpose 1525:6,7 1526:6 1594:20 1597:8 push 1570:16 1572:14 pushed 1610:14 pushing 1569:15 put 1472:1 1509:10 1511:2 1512:21 1513:10 1514:23 1515:24 1524:20 1525:9,22 1544:21 1554:19 1572:25 1582:20 1605:12 1606:8 1610:1,2 1614:13 1614:13 1616:7 puts 1462:7 putting 1464:8 1468:15 1480:1 1512:1,13 1589:5 1596:3 P.Ag's 1558:6 p.m 1617:14 <hr/> Q qualify 1514:7,8,9 quality 1464:3 1466:4 1474:23 1492:9 1493:24 1520:22 1523:19 1524:11 1525:8 1587:12 1595:12 1612:23 1613:1 quantify 1573:14 quantities 1520:14 1529:11 quarter 1502:3 1532:13 Queen's 1464:16 question 1483:4 1486:8 1531:17 1545:12 1548:21 1549:5 1581:10 1581:19 1609:8 1616:2 questions 1468:8 1470:22 1477:2 1486:7 1490:1 1543:2,5,6,25 1557:7 1584:7 1602:22 quick 1550:8 1559:8 1561:15 1561:19 1564:17 1565:21 1566:24 1567:1 1573:22	quickly 1463:11 1485:16 1559:10 1574:4 1575:12 1575:14 1577:12 Quit 1479:9 quite 1487:20 1512:15 1530:15 1531:1,4 1556:20 1559:14 1573:6 1591:3,11 1595:2 1596:7 1598:4 1600:24 1605:22 1608:1 quota 1511:10 quotation 1483:6 quote 1479:15 1551:21 1552:14 Quoting 1480:13 <hr/> R R 1577:18 rain 1491:5 rainfall 1553:3 rainfalls 1553:9 raise 1474:6 1494:18 1526:17 1526:20 1527:10 1527:15,25 1580:20,23 1581:8 raised 1481:18 1482:8 1502:8 1504:9 1510:9 1526:23 1549:20 1580:22 1582:16 1602:17 raising 1504:11 1527:6 1539:5 ramblings 1474:3 randomly 1493:22 range 1482:9 1541:21 1567:19 1593:8 1597:10 ranging 1567:7 rarely 1482:18,19 rate 1562:21 1566:22 1567:4 1567:10,14 1594:20 rates 1475:6,6 1534:11 1565:4 1566:8 rather 1461:22 1527:19 1535:17 1602:4 ratio 1608:6 ration 1570:8	1591:14 1599:17 rations 1568:15 1600:10 ratios 1559:15 raw 1593:3 Ray 1459:12 1473:16,20,21 reaching 1592:1 read 1486:17 1513:13 1574:4 1614:11 real 1503:18 1552:9 1595:8 realistic 1547:20 1562:23 1564:16 realistically 1548:5 realize 1476:3 1616:6 realized 1534:21 really 1489:18,25 1490:16 1516:12 1526:3 1536:4 1591:1,5 1592:15 1593:20 1595:1,4 1596:2,24 1598:11 1599:3 1599:23 1601:23 1608:16 1609:4 1612:11,20 1616:24 reason 1475:8 1515:7 1552:4 1592:15,22 1604:13 1615:18 reasons 1481:4 1489:7 rebuilding 1467:10 1472:19 rebuilt 1500:15 recaging 1514:9 receive 1482:18 1507:25 1562:13 received 1464:20 1484:6 recent 1476:2 1479:6 1481:16 1551:13 1599:20 recently 1476:22 1592:17 1597:11 1600:3 1603:23 receptor 1578:18 recessed 1532:14 recognition 1581:23 recognize 1526:4 1530:21 1538:17 1541:8 recognized 1524:12	1552:13 1570:9 1583:10 recognizes 1540:14 recommend 1556:7 recommendation 1569:23 recommendations 1463:17 1466:16 1506:1,12 1522:8 1523:15 1542:8 1578:4 1579:22 1594:6 recommended 1506:21 1507:6 reconvene 1461:5 1532:13,17 1617:12 reconvened 1532:15 reconvening 1532:20 record 1461:9 1466:1 1473:19 1491:11 1501:1 1513:17 1517:5 1519:9 1549:13 1577:14,20 1590:10 1603:7 recorded 1463:1 records 1548:4 recovery 1595:14 Red 1489:12 1535:15 1611:20 reduce 1521:15 1570:3 1590:24 1597:24 1598:2 1598:18 1600:13 1602:14,21 1612:9 reduced 1505:18 1598:3 1599:9,12 1605:5 reduces 1597:25 1598:22 reducing 1499:25 1525:7 1570:20 1594:25 1615:15 reduction 1525:10 1568:18 1599:16 1616:14 reductions 1600:1 refitted 1510:22 refurbished 1500:16,17 refused 1464:11,13 1464:14 1467:17 1470:24
---	---	---	---	---

reg 1616:7	relates 1584:10,12	1494:13 1497:6	rest 1469:7 1482:14	1497:21 1500:12
regard 1520:21	relation 1555:9	1497:10,11,25	1487:21,21	1501:16 1504:16
1558:8 1559:9	1584:13	1498:2 1512:7	1557:6 1582:18	1511:5 1513:21
1572:10,13	relationships	1513:7 1540:1	1611:7	1516:20 1529:9
regarding 1461:22	1476:18 1550:18	1553:23,24	restrictions 1472:1	1531:25 1543:12
1467:10 1472:20	relative 1600:2	1558:5 1559:16	result 1477:18	1544:9 1546:23
1557:15	relatively 1588:13	1563:8 1583:25	1494:17 1534:14	1556:19 1581:13
regardless 1557:17	1596:11	1585:11	1594:3	1581:14 1589:11
1557:20,23	relevant 1563:1	requirement	resulted 1465:6	1589:12 1603:14
1585:16	reliant 1605:12	1487:11 1539:23	1505:19,20	1606:7 1608:10
regards 1476:16	relief 1475:20	1559:18,24	1506:5 1534:22	1608:20
1477:25 1487:11	reload 1488:2	1560:5 1563:7	resulting 1534:9,17	rightly 1483:13
1504:22 1505:3	reluctance 1576:17	1591:20 1594:18	results 1462:25	rights 1462:11,23
1508:21 1555:11	reluctant 1569:16	1594:19 1601:15	1463:4 1534:15	1463:20
1555:19 1556:22	1589:12	1601:24 1609:24	1555:22,22	right-hand 1596:19
1560:17,19	remain 1464:5	requirements	1562:14,14,16	1599:14
1588:7	1493:22 1508:15	1493:12 1539:10	1563:4 1566:3	rigorous 1519:5
regime 1596:9	1542:2	1542:6 1567:16	1573:6 1576:10	ripped 1505:7
region 1533:21,22	remains 1584:5	1568:9,11,23	1585:4	risk 1475:24
1534:12 1535:14	remember 1478:5	1569:3,18 1591:9	resume 1532:17	1528:11
1540:8,16	1607:6	1591:14 1594:9	retailers 1539:13	risks 1502:23
1612:16	remind 1538:22	1595:19 1609:11	1542:5	1503:22,23
regional 1562:24	removal 1547:22	requires 1474:22	retained 1596:10,20	river 1485:22
1578:8,11 1583:3	1609:25 1610:4,8	1576:7	1596:21 1599:2	1488:14 1489:5
1583:11,15	1610:21 1611:1	requiring 1566:13	retire 1462:7	1489:12 1518:22
regionally 1583:18	1615:11	research 1522:1	returns 1504:6	1535:15 1611:21
registered 1537:12	remove 1466:17	1525:17 1535:5	1511:8	rivers 1578:18
1538:18 1544:12	1548:7 1610:23	1553:23 1578:11	review 1458:3	Riverton 1531:24
regular 1463:4,5	removed 1482:23	1578:19 1607:25	1462:16 1463:18	RM 1467:15
1466:7 1497:11	Rempel 1583:12	residences 1586:7	1464:19 1509:7	1501:10 1550:25
1570:9	renovated 1505:6	1586:13	1509:23 1514:25	1551:3,7,8,14
regularly 1462:24	renovation 1506:19	residential 1551:18	1520:20,23	1578:14 1589:22
1463:1,2 1482:15	1506:25	residual 1562:15	1521:2,6,8	1604:3
1482:23 1542:10	rent 1469:7,8	1564:13 1566:11	1522:15 1523:13	road 1484:23,25
regulate 1523:4	renting 1535:16	1566:12	1526:6 1541:19	1485:11 1512:15
regulated 1482:21	repairing 1475:13	resistant 1606:3	1548:24 1549:2	1512:16 1616:10
1516:3 1522:24	repeat 1461:23	resold 1500:18	1559:7 1579:22	roads 1499:9,12,21
1570:19	replaced 1593:19	resolution 1556:2	1610:5 1614:21	1534:22
regulates 1513:1	replied 1482:10	resolve 1589:14	revise 1595:7	robust 1594:16
regulation 1476:25	report 1459:8	resource 1520:9	revised 1590:23	1596:23 1598:4
1555:6 1556:18	1462:16 1463:18	resources 1465:20	revisit 1566:1	role 1466:6 1526:1
1557:21 1558:11	1551:21 1580:6	1467:9 1508:13	rewarding 1510:10	1528:16 1539:15
1558:11,13	1582:5 1589:13	1554:25 1555:19	rich 1565:17,18,18	Rolff 1484:22
1559:5 1563:7	Reporter 1618:6	1558:1 1561:11	1565:19	roof 1504:1
1575:15 1576:19	reports 1582:4	1563:12 1573:11	Richardson 1537:4	room 1488:5 1500:7
1576:25 1613:7	represent 1533:14	1573:12 1589:4	Rick 1459:13	1555:13
regulators 1538:4	1567:3,23	respect 1464:2	1491:10,12,13	roost 1481:7
1542:16	representative	1473:2 1507:14	rid 1592:9	rotation 1463:7
regulatory 1555:7	1535:4	1527:22	ridiculous 1485:9	1605:3 1606:2
1557:23 1558:15	representing	response 1503:13	1485:14	rotations 1475:7
1558:20,21	1508:2 1538:15	responsibilities	riding 1484:24	Roundup 1606:3
1559:6 1576:2	represents 1462:3	1542:18	1485:1,3,5,9,15	routes 1499:10,14
relate 1523:19	request 1494:5	responsibility	right 1462:19	1499:16 1500:3
related 1492:5	1499:15	1613:4	1468:18 1470:3,6	routine 1600:25
1496:21 1541:3	require 1559:22	responsible 1462:9	1470:9 1471:3,5	row 1484:5 1490:22
1574:19,21	1562:7	1466:2 1467:1	1480:2 1488:13	Royal 1551:17,21
1575:1 1586:14	required 1482:20	1477:23 1495:18	1489:5,5 1496:17	rule 1551:9 1598:4

rules 1476:13 1610:19 run 1470:11,12 1501:13 1561:19 1573:21 running 1470:16 1485:16 1491:4 1613:9 run-off 1463:3 run-offs 1520:15,18 rural 1508:23 1509:16 1533:13 1534:20 1551:18 1572:7	1615:13 says 1461:15 1468:2 1472:17 1479:18 scary 1515:7 scenes 1561:18 scheduling 1563:15 school 1539:16 1549:21 1604:8,9 schools 1504:15 1534:23 science 1521:7,8 1525:16 1535:6 1578:5 1591:19 1599:24 1608:15 1612:19 scientific 1483:2 scientists 1478:17 scope 1540:23 1542:12 1554:11 1554:17,20,21 1555:12 1556:23 1567:24 1575:16 scoping 1554:12,23 1554:25 scorecard 1550:6 1554:18 1580:8 scrapped 1500:15 screen 1554:7,22 screw 1530:22 screwed 1482:6 scrutinized 1466:13 seal 1497:7 season 1465:10 1561:22 seats 1461:4 1532:17 second 1464:13 1475:22 1486:17 1487:13 1511:5 1527:24 1555:16 1556:24 1563:23 secondaries 1565:19 secondary 1565:15 1566:14 1607:16 Secretary 1459:7 sector 1475:4 1534:7 sectors 1533:14,15 secure 1497:5 security 1494:18 1496:25 see 1472:14 1490:22 1490:25 1529:2 1531:12 1542:12 1548:4 1550:25 1553:6,10	1556:13,21 1557:2 1558:3,23 1562:18 1564:24 1565:5,8,23 1566:6 1567:2,8 1567:11 1572:5 1573:10 1576:4,6 1576:16 1579:5 1583:14 1592:21 1593:4,9 1596:18 1599:8 1613:21 seeding 1475:6 seeing 1475:18 1547:11 1607:7 seem 1572:12 seems 1471:10 1476:20 1480:3 1548:23 1572:11 seen 1480:6 1511:4 1522:23 1554:14 1577:15 1579:12 1582:4 1583:20 1584:5 seething 1479:7 segregate 1565:17 segregated 1494:9 Seine 1488:14 sell 1480:21 1500:19 1609:1 sense 1467:22 1485:5 1511:22 sensible 1542:14 sensitive 1525:12 sent 1465:13 1494:2 1531:10 separate 1493:19 1530:14,25 1531:3,12 separately 1487:3 separating 1530:24 separation 1519:17 1530:10 1595:15 separator 1610:10 September 1465:10 serious 1477:12 1489:19 seriously 1466:7 serve 1495:17 1541:14 service 1475:20 1478:2 1493:5 1498:3 1538:18 1542:19 services 1533:23,25 1534:3 1539:20 1544:2,7 1545:18 1546:6	set 1463:24 1466:9 1466:11 1481:23 1490:20 1492:10 1503:22,23 1555:11 1559:6 1571:25 1575:5 1583:23 1584:2 1586:22 1596:8 sets 1594:15 setting 1465:7 settled 1465:11,17 seven 1562:20 1592:12 1600:23 several 1481:25 1505:3 severe 1579:7 sex 1568:7,10 sexes 1568:12 share 1613:4 shareholders 1517:16 1518:20 sheets 1556:5 Sheldon 1459:18 1549:15,16 1550:6 1554:1 1580:7 shelf 1498:24 1499:1 Shelter 1463:9 shifting 1559:1 shifts 1528:23 1558:20 1579:19 shocking 1479:19 shook 1477:1 shop 1493:5 short 1541:22 1590:25 shortcomings 1553:20 1573:10 shorten 1589:17 Short-term 1556:11 shoulder 1613:3 show 1464:17 1474:14 1550:22 1552:20 1553:8 1563:23 showed 1551:13 showing 1552:12 1554:11 1561:4 shown 1466:2 1614:2 shows 1481:25 1487:7 1553:4 sickness 1483:18 side 1484:18 1499:7 1504:22 1533:1 1554:21 1558:9	1568:3 1599:14 sideline 1548:17 sign 1541:16 significance 1607:4 significant 1535:7 1551:22 1558:4 1558:15 significantly 1551:24 signs 1472:15 silage 1487:25 similar 1501:20 1536:16 1596:24 simple 1471:10 1510:1,5 1596:6 1596:17 simply 1489:17 1599:7 since 1464:6 1491:19 1506:25 1511:5 1542:8 1551:4 1558:12 1568:16 1569:7 1603:19 1604:12 1605:13 1606:9 1606:11,21 1610:2,4,7 1612:12,12 single 1479:1 1565:14 1615:11 sir 1461:13 1473:14 1473:23 1491:11 1491:15 1517:11 1531:15 1590:18 1603:11 sit 1469:5,8 1507:11 1537:10 site 1462:24 1562:1 1574:8 1603:25 1604:1,6 1607:19 1609:15,23 sites 1484:17 1486:14 1574:10 1574:11 1586:12 1608:17,20 1609:18,24 siting 1571:4 1572:23 1574:7 1574:12 1586:3 sitting 1546:23 situation 1478:5 1484:1 1485:4 six 1551:11 1556:4 1556:7 1558:3 1562:13 1603:19 1603:20 1604:15 Sixteen 1564:3
S				
s 1564:25 sad 1484:17 safe 1491:22 1492:12 safety 1474:25 1506:18 1507:2 1560:7,8 1594:25 salaries 1551:8 sales 1540:24 1596:14 same 1461:23 1470:11 1471:14 1471:21 1478:11 1483:8,14,15 1503:21 1516:16 1553:4 1555:17 1557:20 1561:23 1564:21 1575:13 1579:3 1594:22 1599:22 1612:4,5 sample 1562:11,12 1565:25 1566:1 sampled 1606:23 samples 1516:13 1585:2,3,17,18,21 sampling 1463:5 1467:2,3 1494:1 1606:18 Sargeant 1459:4 Sargeant's 1557:3 Saskatchewan 1575:24 1581:16 saved 1596:4 saves 1599:21 savings 1506:6 saw 1482:8 1555:18 1579:4 saying 1471:4 1515:15 1526:13 1537:20 1544:5 1548:25 1549:20				

<p>sixth 1612:14 size 1502:20 1528:1 1530:4 1557:17 1568:10 1580:22 1581:8 1585:16 1594:21 1595:15 1600:17 sizes 1564:23 skills 1540:12 1542:21 skipped 1575:12 slaughter 1580:22 1581:8 sleep 1470:13 slide 1554:11 1567:23 1568:2 slides 1554:9 1573:21 1591:1 slightly 1595:6 slipped 1485:23 slogan 1474:16 slow 1531:4 slump 1484:9 small 1475:11 1480:1,18 1484:18 1511:11 1530:8 1564:24 smaller 1473:8 1480:21 1511:15 1600:17 1601:9 smallest 1511:13 1530:8 smell 1477:5 1487:17 1488:19 1597:19 smile 1557:2 Smith 1459:8 snapshot 1556:22 1559:8 1565:21 1566:24 1573:22 1575:7 social 1535:8 1578:5 Society 1484:13 1539:3 software 1563:2 soil 1463:4 1467:3 1503:14 1506:10 1529:24 1540:3 1540:25 1542:7 1547:12 1548:8 1562:11,14,16 1563:4 1564:14 1565:3,25 1566:11 1576:7 1576:10 1578:13 1587:22 1605:15</p>	<p>1605:17,18,19,24 1606:18,21,23,24 1607:11 1611:19 1612:21 1613:2 soils 1548:25 1605:16 sold 1527:1,2 1529:14 solely 1501:17 solicited 1527:7,14 solid 1565:18 1572:2 1584:10 solids 1519:17 1530:10,23,24 1531:1,3,14 1565:16 1588:14 1588:15 solution 1538:14 1572:5 solutions 1553:24 1555:22,23,24 1556:11 1569:13 1571:23 1572:5 solve 1526:1 somebody 1489:9 1515:11 1545:17 1545:17 Someone 1483:22 something 1483:22 1484:4 1498:7 1510:10 1511:9 1514:3 1515:11 1530:21 1556:9 1567:24 1576:23 1613:14 1614:15 1614:16 sometimes 1500:4 1549:2 1586:10 1593:15 1594:5 1602:12 1613:22 somewhat 1474:3 1482:13 1536:22 somewhere 1512:16 son 1484:23 1485:1 1485:2,5,9 soon 1472:8 1579:23 sorry 1468:4 1475:22 1518:3 1543:1 sort 1530:11 1547:15 1600:15 1604:19 sorts 1501:20 sound 1484:4 1522:15 1535:6 sounds 1549:25</p>	<p>1616:3 source 1462:4 1465:18 1578:16 sources 1524:7 1592:6,18 south 1489:4 1528:10 southeast 1531:25 1532:1 1533:18 1533:21,25 1583:7 southeastern 1533:20 southwest 1532:2 sow 1483:10 1487:14 1579:14 1595:17 1603:23 1604:6 sows 1483:12 1486:21,25 1518:5 1530:2,7,8 1532:4 1550:12 1550:12 1580:16 1594:22 1601:21 soya 1597:25 1599:9 soybeans 1502:1 space 1482:25,25 1506:21,23 1512:4,6 1535:16 SPADA 1461:15,16 1461:17,18 1473:2,4 spare 1470:17 spaying 1484:14 speak 1473:3 1488:21 1510:20 1517:13 1520:19 1559:4 1569:17 1585:9 SPEAKER 1515:19 speaking 1538:10 special 1552:12 1583:7 specific 1467:6 1507:12,15 1531:8 1544:25 1567:24 1578:11 1587:12 1594:13 specifically 1472:16 1523:19 1538:10 1541:3 1543:7 1557:14 1586:4 1586:20 specified 1465:16 1469:24 spectrum 1567:8</p>	<p>speculate 1556:17 speech 1474:10 speedy 1589:14 spend 1467:9 1475:25 1527:18 1527:19 spends 1539:7 spent 1551:3 1593:21 1594:11 1610:12 spin 1534:13 spin-offs 1492:23 1494:25 split 1568:7 spoken 1572:10 spot 1576:17 spread 1468:10 1488:1,3 1490:9 1490:11,12 1532:6 1562:8 1567:2 1583:25 1604:4 1605:4 1607:7,10 1615:12 spreading 1470:18 1502:23 1506:13 1562:8 1563:14 1608:6 1609:5 spreads 1602:15 spreadsheet 1556:25 spreadsheets 1596:8 1600:5 spring 1490:13 1503:4 stabilized 1579:14 stable 1595:10 1607:17 staff 1493:7,9 1517:21 1560:5 1560:11 1575:21 1587:10 stage 1511:19,20 stages 1506:19 stagnant 1463:3 stalled 1572:11 Stalling 1479:9 stalls 1483:11 1484:12 stand 1515:16 standard 1537:24 1539:6,23 1586:17,19 standardization 1539:5 standards 1493:14 1519:6 1541:19</p>	<p>1575:5 1586:17 1587:7 1590:22 1590:23 1595:5,7 1602:13 standing 1464:2 1552:16 start 1470:18 1537:19 1545:18 1546:23 1547:18 1549:19 1550:4 1567:18 1571:7 1592:2 1606:18 1607:6 started 1519:21 1522:1 1524:16 1528:6 1603:16 1606:19 1607:5 1607:12,14 starter 1605:9 starting 1559:11 1605:23,25 starvation 1478:4 starving 1475:19 state 1491:10 1493:19 1501:1 1505:11 1509:18 1517:5 1536:5 1541:25 1553:7 1558:14 stated 1521:6,25 1542:4 1618:10 statement 1472:18 1483:13 1583:11 1584:4 1587:22 States 1496:8,10 1498:14 1527:3,5 1527:15 1543:15 1577:9 stats 1513:13 status 1538:21 stay 1466:10 1495:23 1499:15 1499:17 1558:18 1564:21 Ste 1486:14,24 Steinbach 1533:5 1533:12 1604:8 stems 1518:12 Stenotype 1618:9 step 1476:21 stepped 1482:6 Steve's 1491:18,20 1492:19 1493:10 1495:8 stewards 1501:15 1518:17 1529:21 1580:3</p>
--	---	---	--	---

stewardship 1521:4 1524:3,8 1534:24 1538:6 1542:23 1577:15,20	1586:3 strictest 1494:11 1576:2 stringent 1539:9 strive 1495:17 1504:3 1507:5 1513:11 stroke 1589:24 strong 1518:9,17 1534:6 1536:8,11 strongly 1552:1 1615:4,5 structure 1462:19 1462:21 1469:20 1541:12 struggle 1613:23 struggling 1534:5 stuck 1485:19 studies 1466:9 1551:19 study 1540:2,14,22 1551:16 1552:2,7 1578:14,16 studying 1519:16 1530:10 1531:10 stuff 1469:7 stuffs 1591:11 sub 1547:13,13 subdivide 1609:1 subject 1550:5 subjected 1519:4 submissions 1576:8 submit 1473:7 1585:5 submitted 1560:22 subsequent 1540:21 subsequently 1542:7 1567:15 subsidize 1503:20 substantially 1511:7 succeed 1502:14 success 1550:16 1558:22 1571:9 1572:3 successes 1476:12 successful 1540:9 1571:11 1573:5 1574:15 1591:7 successfully 1465:20 sudden 1589:25 sufficient 1462:5 1468:10 1528:19 1529:11 suggest 1507:6 suggests 1552:2	suitable 1571:19 1572:21 suited 1463:8 sulfur 1597:17 summary 1522:12 1599:3 summer 1490:14,15 sunset 1559:4 supervisors 1493:23 suppliers 1534:18 supplies 1495:4 supply 1595:25 1597:7 supplying 1467:2 1475:17 1476:6 support 1507:25 1509:13 1510:2 1533:16,17 1534:8 1552:7 supporting 1466:22 1533:23 1535:13 supports 1560:25 supposed 1491:3 1611:21 sure 1483:9 1497:5 1497:16 1522:24 1525:13 1545:25 1546:22 1547:19 1571:15 1579:12 1580:5 1586:21 1602:6 1607:2 1608:16 1612:18 surface 1584:17 surrounded 1550:17 surrounding 1509:10 1552:9 surrounds 1504:10 survey 1476:23 surveyed 1465:14 suspecting 1524:22 suspended 1485:21 sustain 1480:9 1523:1 sustainability 1502:18 1522:4,7 1522:19 1526:8 1582:25 1612:15 sustainable 1477:23 1519:1 1523:7 1550:11 1578:24 1580:4 1604:23 1604:24 1609:9 1612:12 1613:11 1613:12 sustained 1523:3	swine 1517:18 1602:8 Switch 1465:22 switching 1609:10 sworn 1461:11 1473:21 1491:13 1501:3 1517:9 1533:9 1537:15 1549:17 1590:16 1603:9 synonymous 1594:7 synopsis 1561:15 synthetic 1463:22 1468:16 1469:22 1470:2 1605:6,8 1612:9 system 1483:9 1505:9,9,10,13,18 1510:24 1519:4,7 1519:15 1546:11 1546:12 1559:19 1564:19 1565:1 1568:8 1576:21 1593:17,22,25 1596:3 1598:8,15 1598:22 1599:7,8 1602:2 1607:17 1610:22 systems 1475:2 1505:12 1518:23 1586:23 1593:12 1595:16	takes 1466:6 1541:23 1566:2 taking 1509:5 1536:24 1585:2 1603:5 talk 1461:16 1487:13 1520:6 1522:5 1584:23 talked 1473:4 1504:22 1581:11 1610:24 talking 1600:10 tanker 1469:5 1470:10 tankers 1468:23 1470:11 target 1612:24 targets 1545:25 1548:4 task 1589:5 tasked 1578:1,2 taught 1475:13 1549:22 tax 1534:21 1551:6 teacher 1549:21 teaching 1504:14 technical 1462:16 1463:18 1464:19 1509:7,22 1514:25 1548:10 1548:24 1549:2 1589:3 1602:22 1614:21 technique 1600:20 techniques 1492:13 1599:21 technologies 1530:12 1531:11 1577:19 1616:13 technology 1465:23 1531:9 1555:2,3,5 1555:20 1559:16 1559:23 1564:18 1569:8 1591:25 teeth 1479:10 tell 1472:6 1476:11 1483:21,23 1529:10 1546:20 1547:14 telling 1474:8 1614:1 tells 1486:1 temperature 1564:2 1567:19 temporary 1495:10 1520:25 1578:10 ten 1563:12 1608:3
			T	
			table 1462:8 1533:1 1568:21,22,25 1569:17 1593:1 1597:12 tables 1524:7,8 Tache 1486:13,14 1490:5 take 1461:4 1470:1 1476:14 1479:1 1505:4 1507:1 1520:5 1522:22 1532:12 1538:21 1555:17 1562:14 1582:8 1589:15 1594:12 1598:1 1600:15 taken 1466:8 1475:15,23 1481:24 1484:16 1493:19 1516:13 1558:15 1575:15 1575:17 1585:24 1618:9	

<p>tend 1594:6 1598:18 tended 1592:19 tending 1598:7 tends 1593:17 1596:12 term 1475:20 1478:2 1526:9 1556:12 1580:4 terms 1468:19 1469:16 1486:18 1487:1 1497:24 1513:23,25 1526:11 1530:9 1584:21 1585:12 1586:15,18 1601:14,18 1602:1,3 1616:6 1616:11,15 terrible 1467:7 Terry 1459:4 tertiary 1565:15 1566:14 test 1462:24 1467:2 1506:10 1562:14 1562:14,16 1563:4 1576:8,10 1585:4 tested 1462:24 1482:16 1585:4 1598:15 tester 1585:8 testicles 1484:19 testing 1467:3 1539:5 1542:7 1559:24 1584:22 1585:12 1587:22 1588:1 tests 1463:4 1494:1 1498:5 1567:12 1585:5 1588:8,8 Teulon 1531:24 thanks 1517:2 1546:15 their 1465:13,19 1471:19 1474:21 1474:25 1476:13 1476:20 1480:25 1483:21 1484:6 1488:13 1494:7 1495:1 1498:8,19 1498:21 1501:22 1508:10 1511:19 1513:25 1517:16 1522:10 1523:20 1535:19 1539:8 1539:18 1540:8</p>	<p>1540:12 1546:3 1558:4 1559:17 1560:22 1561:12 1569:2 1579:8 1586:25 1589:23 1591:15 1595:7 1614:22 themselves 1465:19 1480:8 thing 1468:2 1480:18 1498:6 1498:16 1513:22 1529:1 1565:9 1575:13 1577:5 1591:18 1592:16 1596:11 1598:6 1598:11 1600:14 1607:23 things 1462:18 1467:7 1473:10 1474:22 1476:3 1476:17 1477:9 1483:16,20 1488:9 1497:8,16 1504:23 1505:1,8 1509:22 1514:6 1514:11,25 1530:14 1531:5 1547:17 1561:18 1564:20 1567:1 1574:12 1576:22 1583:17 1591:8 1598:12 1610:10 1615:16 thinking 1467:6 1513:23 1516:24 1523:2 third 1494:6 1519:7 1538:18 1542:19 1565:20 1580:13 1603:21 1604:18 1612:13 Thirteen 1563:21 thorough 1573:17 thoroughly 1493:17 1557:6 1560:25 1561:4 though 1500:3 1548:23 1581:23 1586:10 thought 1482:5 1488:18 1509:3 1609:11 1614:17 thousand 1607:24 1607:24 1615:1 threat 1481:9 1497:9 1528:10</p>	<p>three 1470:16 1475:14 1486:14 1492:2 1494:13 1502:5 1503:3 1531:7 1550:3,15 1554:13 1562:5 1576:1,5 1577:6,7 1598:19 1601:4 1608:2 three-year 1475:19 1478:2 1578:13 threonine 1597:13 1597:20 1599:11 threshold 1557:23 1612:2,21 through 1463:11 1464:7 1476:10 1477:14 1479:5 1483:16 1485:20 1508:19 1513:5,6 1515:2 1523:20 1539:5,6 1540:12 1545:19 1546:24 1547:9 1553:2 1557:5,6,10 1561:20 1573:4 1573:22,24 1575:18 1576:20 1576:21 1577:18 1579:12 1580:8 1580:17 1590:8 1606:17 1607:8 1607:20 1610:14 1613:10 1614:18 1614:19 1615:15 throughout 1481:25 1554:13 1561:24 1568:7 1573:3 1574:23 1591:24 throw 1503:7 1573:18 1575:22 throwing 1497:8 thumb 1551:9 1598:5 Thursday 1458:19 1461:1 ticket 1576:17 tickets 1576:14 tie 1485:17 tied 1567:4 till 1605:20 timelines 1553:24 1555:25 1556:1,3 times 1476:15 1477:12 1480:17 1489:1,2 1503:11 1506:14 1510:12</p>	<p>1556:6 1560:16 1561:23 1573:5 1609:25 1610:23 timing 1567:20 tires 1495:4 title 1479:9 today 1480:10 1481:2,24 1492:16 1495:10 1495:15 1501:11 1501:17 1504:23 1517:4 1523:18 1528:20 1529:10 1532:20,23 1533:16 1537:8 1537:22 1538:15 1543:2 1550:3,14 1554:25 1556:9 1557:9 1570:19 1573:9 1577:22 1577:24 1579:17 1581:25 1583:13 1586:6 1591:17 1614:3 1617:6 today's 1502:14 1510:12 1553:13 1602:13,20 together 1485:19 1487:3 1492:7 1502:11 1514:23 1523:8 1551:16 1554:19 1589:5 1613:21 1614:13 told 1481:15 1483:25 1484:21 1484:22 1571:19 1611:20 1614:18 tomorrow 1488:23 tomorrow's 1510:9 ton 1581:12 tool 1528:12 1570:23 1576:15 1588:17 tools 1570:20,23 top 1491:21 1516:9 1576:4 1587:14 1593:7 topic 1479:14 1481:21 total 1567:17 1568:18 1569:1,9 1570:13,21 1588:10 totally 1485:13 touch 1575:14 tough 1471:15 1573:16</p>	<p>Toumond 1501:9 tow 1561:14 towards 1518:25 1561:11 1563:12 1593:6,8 town 1486:11 1487:15 1488:13 1608:24 towns 1489:9,11 trace 1482:18 track 1466:1 1513:17 1519:9 1566:19 1577:14 1577:19 tractor 1470:8,17 trade 1495:3 1528:10 1534:17 traded 1485:5 trailer 1492:15,24 1493:1,5,22 1494:1 1497:14 1498:25 1499:3 1500:13,20 trailers 1493:4,15 1493:17,18,22 1494:5,7,8 1497:7 train 1475:12 Training 1492:10 trains 1492:12 transcript 1458:9 1618:8 translating 1547:1 transmission 1575:8 transparency 1561:1 1571:8 transparent 1571:6 transport 1491:18 1491:20 1492:18 1492:20 1493:10 1498:14 1578:12 1578:19 transportation 1487:10 1491:23 1492:21 1494:19 1495:13 1496:3 1534:15 1536:10 transported 1497:15 travelling 1471:24 travels 1579:13 TRC 1573:1,1,4,7 treasure 1536:14 treat 1471:13 1520:12 treated 1471:21 1592:12</p>
---	--	--	--	---

tremendous 1492:2	1502:6 1503:3	unforeseen 1477:7	1476:24 1481:10	variable 1601:5
trials 1570:13	1505:6 1531:7	unfortunately	1486:4 1489:25	variables 1581:12
tried 1502:19	1534:2 1540:1,10	1473:11 1575:11	1492:16 1500:19	1581:18 1582:19
1530:22 1555:18	1540:13 1551:23	UNIDENTIFIED	1506:4 1531:2,9	varies 1588:4
1598:15 1607:14	1557:25 1558:5	1515:19	1542:10 1564:1	1594:19
trouble 1474:5	1562:4,16 1565:8	unique 1560:9,14	1569:8 1593:17	varieties 1475:6
trough 1482:25	1585:7,17 1590:7	united 1496:8,10	1593:18 1594:16	1503:14
truck 1487:24	1591:8 1594:2	1527:3,5 1543:15	1598:8 1599:25	variety 1535:13
1492:23 1493:1,5	1596:17 1603:18	1550:9	1600:21,23	various 1484:17
Trucker 1492:9	1608:2 1609:18	units 1462:2 1502:4	1601:1,9 1609:16	1591:9
truckers 1497:1	1609:25 1610:21	1502:7 1540:13	1612:25	vast 1592:11
trucking 1498:18	1610:23	1545:23 1546:9	useful 1606:13	vehicles 1475:13
1517:23	two-thirds 1581:1	1547:1,2 1557:18	users 1605:4	ventilation 1586:16
trucks 1490:7	type 1469:17	1557:18	uses 1551:10 1605:6	1586:18,22,23
1496:4,6 1498:19	1470:2 1546:24	University 1481:15	using 1463:6	ventilations 1575:5
1498:21	1570:14 1595:16	1502:10 1536:1	1468:20 1519:14	verbal 1483:16
true 1478:11	types 1503:14	1539:17 1604:10	1529:10 1530:22	versus 1481:22
1603:14 1618:8	1514:8 1551:1	unknown 1510:13	1570:14 1592:10	1505:24 1516:2,8
truly 1507:24	typically 1545:9	1556:13,16	1592:14 1598:20	1562:6 1602:2
1584:16	1571:17 1588:4	unlike 1497:10	1606:15,22	vessel 1519:11
trust 1467:10	1598:21	1539:21	1607:8,15,18	vested 1537:20
1472:19		unreachable	1608:14 1612:10	vet 1494:2,5
truthfulness	U	1605:11 1609:12	1613:6	veterinarians
1541:23	U 1535:14,21	until 1574:19	usually 1470:10	1498:9
truthing 1573:14	1578:15	1589:15 1590:8	utilization 1506:11	viable 1616:12
truths 1479:5	ultimate 1584:4	1597:11 1606:22	1568:19 1570:2	vibrant 1534:7
try 1470:12 1474:7	ultra 1595:2	1614:13	utilize 1509:7	1579:12
1482:1 1487:8	unaware 1539:1	upgrading 1513:25	1553:19 1559:16	vice 1537:10
1490:10 1544:19	1545:7	uphold 1542:22	1559:22 1560:1	video 1552:12
1564:20,21	uncertainty	uptake 1516:19	1562:5 1564:23	Viefauve 1549:14
1590:23 1600:17	1494:22 1495:11	1520:17 1547:22	1565:2,11	1549:14,16,18
1605:4 1608:16	uncles 1611:23	1564:16 1569:11	1568:14 1569:4	1550:2,9 1577:12
1608:19	uncomfortable	1610:23	utilized 1521:13	1580:14,19,23
trying 1472:21	1554:8	upwards 1595:7	1555:5	1581:3,9,22
1474:18 1475:5	under 1462:10	up-front 1509:3	utilizing 1562:12,23	1582:18,24
1526:1 1585:20	1494:23 1504:1	1572:2	1563:17 1564:18	1583:2,6 1586:6
1594:23 1595:21	1505:10 1508:9	urban 1612:25	1569:5 1570:22	1586:19 1587:3
1596:25 1602:13	1513:2 1541:19	1613:5	1576:10 1612:6	1589:17 1590:4
1602:21	1563:7 1584:8	urine 1597:4	utmost 1499:24	Viefauvre 1459:18
tryptophan 1597:14	1586:1 1615:19	use 1463:19 1487:8	U.K 1590:22	view 1520:20
1597:20	undergo 1493:15	1488:17 1508:17	1594:12 1596:18	1526:1 1603:4
tune 1504:7	understand	1508:21,23	1600:15	views 1461:25
turn 1504:6 1554:8	1480:15 1501:21	1518:22 1519:11	U.S 1492:10	1479:2
1554:9 1559:3	1505:24 1508:22	1525:23 1544:2,7	1494:18 1528:7	Viriden 1617:13
1577:25	1515:9 1521:11	1546:6 1555:3	1528:11	virtually 1496:20
turned 1467:22	1578:12,16,17,18	1565:14 1568:6	U.S.D.A 1497:10,12	1513:11 1606:25
turning 1550:20	1581:16 1582:9	1569:10,12		visible 1542:9
Twelve 1563:17	1585:25 1597:1,2	1571:1,12,13,23	V	visit 1519:25
twice 1464:14	1597:15	1572:16,20	valuable 1506:5	visited 1479:16
1470:24	understanding	1575:25 1577:20	1508:4	visits 1573:14
two 1463:24	1477:17 1512:25	1586:1 1587:23	value 1527:11,13,17	vital 1540:22
1467:17 1469:19	1520:2 1521:12	1588:17 1592:18	1528:7,8,9	vitamins 1482:17
1469:20 1473:24	1523:14 1540:7	1592:19 1597:22	1536:14 1598:10	volatile 1571:16,21
1474:10 1476:23	understood 1581:15	1599:10,11	values 1552:1,9	1572:20
1481:13 1484:8	unemployment	1605:2,8,9,13	variability 1566:2	volume 1505:23
1484:22 1485:14	1534:11	1611:19	1595:14 1607:9	1516:6 1562:6
1489:2 1501:7	unfair 1466:19	used 1469:6	1607:13	1563:25 1585:15

volumes 1562:4	water 1462:11,11	welders 1493:7	1547:20 1558:24	words 1549:22
voluntary 1539:4	1462:23,23,25	welfare 1478:23	1561:3 1564:18	work 1476:1 1477:8
vote 1470:25	1463:20 1465:18	1480:23	1574:12,16	1478:2,18
voted 1464:24	1467:2 1474:23	wells 1462:24	1576:24 1577:22	1480:14 1488:20
	1475:22,22	1467:3 1611:6,9	1585:1,2 1591:16	1498:23 1517:22
W	1482:16 1485:22	well-being 1480:25	1594:23,24	1520:21 1521:10
W 1535:14	1485:24 1493:15	1535:9	1602:25 1608:21	1522:1,11 1523:7
walk 1485:2,8	1504:13 1508:12	well-defined	1610:24	1525:13,14
walked 1484:2	1510:23 1523:19	1541:12	we've 1506:24	1530:25 1531:1,2
walking 1485:3,6	1524:2,8,11,11	well-positioned	1513:17 1536:18	1537:4,25 1546:2
1526:13	1525:8 1540:3,25	1542:12	1557:11 1559:11	1548:22 1551:16
Walter 1459:17	1552:16 1556:14	went 1470:24	1572:9 1573:6	1554:6 1558:25
1537:6,10,15,20	1578:13 1611:9	1508:19 1549:20	1583:20 1585:18	1559:23,25
1539:14 1543:2,4	1612:23 1613:1	1604:8,9	1586:8 1589:9	1563:14 1565:22
1546:16	1613:13	were 1461:17	1592:3,19 1596:2	1590:12
wanders 1602:11	watering 1505:9,12	1464:21 1465:21	1599:6	worked 1475:12
want 1467:24	waters 1463:4	1467:21 1470:24	wheat 1502:1	1492:13 1521:16
1471:25 1472:9	waterways 1491:3	1473:6 1480:20	1548:7	1524:19 1525:20
1483:2 1484:11	watery 1565:20	1481:5,8,11,19	whereabouts	1611:25
1484:11,20	way 1462:3 1471:5	1484:23,25	1486:9	workers 1560:8
1485:25 1488:23	1471:14,17,21	1485:12,16,22	while 1469:5	1587:9
1489:2,4 1495:19	1472:3,4 1485:21	1499:8 1506:18	1475:16 1481:19	working 1466:23
1495:21,22	1487:22 1503:7	1508:17 1509:9	whilst 1591:15	1492:7 1517:24
1499:12 1510:15	1507:15 1508:25	1511:4 1515:15	white 1565:24	1518:23 1519:21
1520:19 1523:5	1509:4 1510:13	1519:13,20	whole 1464:25	1522:14 1530:15
1525:13 1526:10	1510:18 1513:2	1520:24 1524:20	1492:4 1547:9	1530:17 1544:14
1527:9,11	1514:24 1516:16	1525:9 1527:23	1564:4 1583:16	1545:24 1546:21
1537:19 1541:9	1530:24 1544:21	1530:25 1551:20	1603:5	1550:18 1609:22
1541:25 1547:21	1558:24 1559:2	1552:23 1553:7	wide 1495:14	workplace 1560:6,8
1550:22 1551:19	1567:8 1574:9,11	1556:1 1564:2	widely 1599:25	works 1480:20
1553:18,20,21	1589:20 1602:4	1578:4,5 1583:23	1600:21 1601:9	1537:6,11 1546:8
1554:16 1556:16	1609:6 1610:15	1585:19,21	wider 1597:10	1546:9 1598:16
1572:25 1575:14	Wayne 1459:6	1595:6 1603:17	wife 1475:9	workshop 1507:8
1577:13 1580:9	1470:20 1490:2	1606:17,20	willing 1609:2	1507:21
1591:18 1604:23	1498:11 1531:16	1609:12 1610:21	wind 1463:9	world 1476:13
1612:11 1613:13	1543:23 1587:20	1611:21 1614:1	Winkler 1532:2,3	1478:6 1540:17
wanted 1487:14	1613:17	1614:18,23	Winnipeg 1479:20	1602:21
1488:7 1520:6,20	ways 1472:22	weren't 1473:12	1484:13 1523:20	worms 1481:20
1527:23 1545:18	1476:6 1482:1	1487:17 1488:12	1526:2,3,5	worth 1506:7
1553:17 1554:10	1499:20 1519:21	1488:17 1595:10	1552:11 1581:18	1552:21
1557:4,13,25	1581:24 1615:15	west 1489:2,4	1603:2	worthwhile 1507:9
1561:14 1563:11	1616:11	1532:2 1616:22	Winter 1482:2	wouldn't 1514:6
1573:18 1574:3	weaknesses 1553:22	1617:2	wisdom 1523:21	1544:16 1611:4
1576:3 1588:25	weanlings 1498:15	western 1531:20	1611:20	write 1540:1
1604:16	1527:1,2	1532:4,5 1583:9	wish 1480:15	Writer 1459:8
wanting 1535:22	weather 1502:23	1598:20 1601:4	1514:10	written 1468:2
1545:15 1602:19	1503:9,13 1504:1	wet 1490:16	wishes 1499:11	1477:16 1559:5
wants 1613:10	website 1541:5	1595:16	1532:23	wrong 1483:22
war 1545:4	weeds 1606:3	we'll 1461:5	withholding 1479:4	1589:3
wash 1492:24	weeks 1481:13	1532:12,13	woman 1482:3	wrongdoings
1493:2,3,15	1484:8 1531:7,7	1557:3 1561:5	won 1589:22	1467:8
washed 1493:17	weight 1580:24	1562:7 1565:14	wondered 1485:2	
wasn't 1485:2	1594:19	1584:16 1590:8	wonderful 1514:10	X
1523:16,16	weights 1499:25	we're 1472:20,21	1607:23	
waste 1489:9	1600:12 1601:21	1483:12 1526:2	wondering 1490:19	Y
1520:11 1565:17	welcome 1520:22	1530:13 1531:5,9	word 1488:17	
wastes 1542:13	1521:1	1532:6,20	1589:3 1598:6	yard 1494:9 1497:7

<p>yeah 1470:14 1485:4,10 1601:17 1616:17 year 1463:24 1482:1 1490:16 1503:9 1506:6,7 1507:3,7 1513:4 1518:1,3,7 1519:7 1527:6,18 1528:22,24 1540:13 1553:5 1559:1,4 1561:24 1580:17 1585:11 1585:13,19 1588:12 1589:16 1595:4 1604:2 1609:16,17,18,20 1611:14 yearly 1611:18 years 1465:12 1471:15 1475:14 1476:2 1478:1,8 1478:10 1491:19 1499:3,5,20 1500:14 1502:5 1502:12,19 1503:1,3,10,17,20 1505:2,6 1529:20 1536:4,10 1556:11,13 1558:16 1562:18 1569:6,25 1571:10 1574:22 1579:5,15 1590:21 1592:13 1595:6 1598:14 1598:19 1599:20 1599:25 1600:23 1601:4 1614:25 Yee 1459:5 1468:9 1468:15,19,25 1469:2,12,16,21 1470:1,4 1486:8 1486:16 1487:1 1487:10 1497:24 1498:4,10 1512:18,23 1513:19,22 1514:19 1530:1,9 1531:15 1543:11 1543:16,22 1584:7,21 1585:10 1586:1 1586:14 1587:1 1587:11,19 1601:12,18 1602:1,10 1616:1</p>	<p>1617:3 yesterday 1527:21 1527:22 1602:16 1617:11 yield 1520:10 1545:25 1547:18 1547:19,20 1548:4 1611:23 yielding 1478:16 yields 1562:21,22 1562:25 1611:15 1611:18 young 1482:3 1491:25 1504:11 younger 1595:19 youth 1534:20 <hr/>Z<hr/>zoned 1572:22 zones 1547:11 <hr/>\$<hr/>\$1 1517:25 \$10 1518:3 \$15,000 1506:7 \$25 1527:18 \$25,000 1468:13 \$30,000 1609:17 \$400,000 1551:5 \$48,000 1609:16 \$60,000 1609:20 \$68 1551:4 \$78,000 1609:17 <hr/>0<hr/>0 1606:23 07 1514:16 <hr/>1<hr/>1 1518:2,7 1532:5 1598:2,22 1615:21 1,400 1501:25 1,500 1486:23 1493:3 1,800 1468:3 10 1493:6 1517:21 1532:12 1556:12 1556:13 1560:21 1561:12 1588:5 1590:25 1595:8 1598:4 1606:23 1615:1 10:36 1532:14 10:49 1532:15 100 1493:3 1509:13 1513:12,15</p>	<p>12 1458:19 1461:1 1536:4 1591:1 12:43 1617:14 13 1472:15 1599:10 130,000 1527:6 14 1563:22 14,000 1543:20 14001 1519:6,14 1461 1459:11 1473 1459:12 1491 1459:13 15 1469:6 1536:4 1603:15 15,000 1522:10 150 1502:4 1501 1459:14 1517 1459:15 1533 1459:16 1537 1459:17 1549 1459:18 1590 1459:19 16 1470:12 1603 1459:20 17 1564:10 17.2 1599:15 18 1502:12 18,000 1502:2 19.9 1599:15 1973 1517:20 1993 1550:12 1994 1550:9 1551:4 1605:20 1606:19 1606:21 1997 1607:6 1998 1558:12 <hr/>2<hr/>2 1598:22 1615:21 20 1478:8 1491:19 1569:6,6 1582:11 1605:21 1607:23 200 1493:8 2001 1465:9 1604:9 2002 1552:23 1568:16 1614:25 2003 1606:22 2004 1465:10 1551:16 2005 1604:11 2006 1519:20 1521:15 1524:21 1525:5 1551:6,13 1605:20 2007 1458:19 1461:1 1465:22 2008 1572:8 1588:24</p>	<p>21 1599:9 220 1538:15 1543:20 23 1513:14 24 1470:7 240 1551:6 25 1588:11 250,000 1585:21 26 1551:14 260 1533:14 27 1599:16 28 1465:10 <hr/>3<hr/>3 1605:19 3,000 1530:7 1567:7 3,400 1603:23 3,500 1530:7 3,650 1604:4 3-2 1464:24 1470:25 30 1512:6 1568:17 1590:21 1599:18 1607:24 300 1492:1 1545:23 1557:17,18 35 1512:6 1574:22 36 1596:20 360 1517:21 <hr/>4<hr/>4 1568:22,22,25 1569:17 4,000 1486:24 1502:6 1550:12 1567:7 4.8 1551:8 40 1478:10 1540:12 1568:18 40,000 1583:15 400 1530:8 1553:1 43 1596:21 45 1496:9 1574:22 450 1550:14 46,000 1518:5 1530:2 1532:4 <hr/>5<hr/>5 1601:22 5th 1552:19 5.5 1605:19 50 1530:25 1540:8 50,000 1469:6,9 1582:1 55 1496:12,13 57,000 1550:12 1580:16</p>	<p>572 1502:7 <hr/>6<hr/>60 1612:1 60,000 1604:2 1605:7 600 1462:1 1486:21 1486:25 650,000 1580:24 67 1506:22 <hr/>7<hr/>72 1593:5 <hr/>8<hr/>8 1567:10 8,000 1609:15 80 1513:16 800 1462:2 1468:3,4 1468:10 1552:21 85 1549:23 <hr/>9<hr/>9 1465:9 9,000 1567:11 9:05 1461:2 90 1506:23 1513:16 1593:7 98 1492:4</p>
--	--	---	--	--