

MANITOBA CLEAN ENVIRONMENT COMMISSION

HOG PRODUCTION INDUSTRY REVIEW

TRANSCRIPT OF PROCEEDINGS

* * * * *

Held at the Friedensfeld Community Centre
Friedensfeld, Manitoba

WEDNESDAY, APRIL 11, 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
Margaret Remple	1311
Dan Klippenstein	1327
John Kroeker	1349
Bob Schinkel	1359
Chris Goertzen	1369
Shanyn Silinski	1379
Carol Loveridge & Diana Ludwig	1393
Stan Toews	1420
Doug Cavers	1429
Jonathan Kleinsasser	1446

INDEX OF EXHIBITS

NO EXHIBITS MARKED

1 WEDNESDAY, APRIL 11, 2007

2 UPON COMMENCING AT 1:03 P.M.

3 THE CHAIRMAN: Good afternoon, ladies
4 and gentlemen. Welcome to the Clean Environment
5 Commission hearings into our Hog Production
6 Industry Review.

7 My name is Terry Sargeant. I'm the
8 Chair of the Manitoba Clean Environment
9 Commission, and I'm also the chair of this panel.
10 With me on the panel are Wayne Motheral and Edwin
11 Yee. I have a few opening comments, and then we
12 will proceed to presentations by a number of
13 people who have indicated they wish to make
14 presentations this afternoon.

15 The Clean Environment Commission has
16 been requested by the Minister of Conservation to
17 conduct an investigation into the environmental
18 sustainability of hog production in Manitoba. The
19 Terms of Reference from the Minister direct us to
20 review the current environmental protection
21 measures in place to determine whether or not they
22 are effective for the purpose of managing the
23 industry in a sustainable manner.

24 Our investigation is to include a
25 public component to gain advice and feedback from

1 Manitobans. This is to be done by way of public
2 meetings in various regions of the province.

3 We have been asked, as well, to take
4 into account efforts underway in other
5 jurisdictions to manage hog production in those
6 jurisdictions in a sustainable manner.

7 Further, we are to review the contents
8 of the report prepared by Manitoba Conservation
9 entitled: "An Examination of the Environmental
10 Sustainability of the Hog Industry in Manitoba."

11 At the end of our investigation, we
12 will consider various options and make
13 recommendations in a report to the Minister on any
14 improvements that may be necessary to provide for
15 environmental sustainability of hog production in
16 our Province.

17 To ensure that our review includes
18 issues of importance to all Manitobans, the panel
19 has undertaken to hold 17 meetings in 14
20 communities through the agricultural part of
21 Manitoba. These meetings began in early March and
22 will continue until April 27th, when the final
23 meeting is scheduled to take place in Winnipeg.
24 Today, I believe, is meeting number nine or ten.
25 Ten, I think.

1 At these meetings, it is open to any
2 group or individual to make a presentation to this
3 panel on issues related to our mandate. For the
4 most part, presentations are to be limited to 15
5 minutes. Exceptions may be made, in some cases,
6 where a presenter needs more time, and provided
7 that they have made provisions or made a request
8 with the Commission Secretary prior to the
9 presentation. Those who make presentations will
10 be required to take an oath promising to tell the
11 truth.

12 Presentations should be relevant to
13 the mandate given the Commission by the Minister,
14 and to the issues described in the Guide to Public
15 Participation in this Review. If a presentation
16 is clearly not relevant, it may be ruled out of
17 order. As well, if a presentation is repetitive,
18 it may also be ruled out of order.

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

23 In addition to the public meetings,
24 the Clean Environment Commission is engaging
25 consultants to assist us in this review. The

1 results of these research endeavours will be
2 posted on our web site, which we expect to be in
3 late June. Parties or individuals will be invited
4 to provide comment on any of those reports, if
5 they so wish. A reasonable, but brief period of
6 time, will be allowed for such comments.

7 Written submissions will also be
8 accepted. Information as to how to submit written
9 submissions is available on our website. The
10 deadline for these is May 7th.

11 We also realize that many people are
12 reluctant to make presentations in public, for a
13 variety of reasons. To address that, we have
14 engaged a graduate student from the University of
15 Manitoba to meet with, or talk on the phone with,
16 persons who would rather not speak at a public
17 meeting. These conversations or meetings will be
18 kept confidential. Information as to how to
19 contact her is available on our web site, as well
20 as at the table by the entry door.

21 Finally, some administrative matters.
22 If you wish to make a presentation today, would
23 you please register at the table over by the
24 entry? As is our normal practice, we are
25 recording these sessions. Verbatim transcripts

1 will be available online in a day or so. You can
2 find the link to these transcripts from our
3 website.

4 Finally, in respect of cell phones, I
5 would ask that you turn them off or, at the very
6 least, turn the ring tone off. And if you must
7 take a call, I would ask that you leave the room.
8 And one final note, I would ask that you not
9 engage in any conversation while people are making
10 presentations. That's it for my comments.

11 We've had, so far, six people have
12 indicated that they to make presentations this
13 afternoon and another four people this evening
14 after dinner. If any others of you in the
15 audience wish to make a presentation this
16 afternoon, please let Joyce know.

17 The first person on the afternoon
18 agenda is Marg Remple. Please state your full
19 name for the record?

20 MS. REMPLE: My name is Margaret
21 Remple.

22 MARGARET REMPLE, having been affirmed, presents as
23 follows:

24 THE CHAIRMAN: Please go ahead,
25 Ms. Remple.

1 MS. REMPLE: Commissioners, staff,
2 fellow presenters, friends and neighbours. I am,
3 indeed, grateful for the opportunity to
4 participate in these province-wide hearings
5 focusing on hog production and related practices
6 in our province.

7 My name is Marg Remple. I am a
8 farmer. I own and operate a mixed farm here in
9 the Rural Municipality of Hanover. My farm,
10 Rempelco Acres Ltd., consist of 500 sow, farrow to
11 finish, hog enterprise and 1500 acres of cropland
12 on which I grow cereal grains, oilseeds, as well
13 as some forage crops. My late husband's family
14 began farming where I am currently located, in
15 1957, making this year a 50-year mark for the
16 Remple family. Hogs became an important part of
17 the farm in 1967, and production has continued
18 since that time, growing gradually to the present
19 size. I joined the Remple family in 1975, and
20 farmed with my husband until his passing in 2003
21 and, since that time, have been farming on my own.

22 Hog production has been a very
23 important component in my farm's sustainability,
24 in every aspect. It has allowed the farm to
25 provide full-time employment to three people, in

1 addition to part-time employment to my three, now
2 young, adult children. Hog production has
3 provided a very important natural, organic source
4 of soil fertility for our cropland. Hog
5 production has been central to the financial
6 sustainability of my farm, meaning, among other
7 things, a tax contribution of well over \$20,000
8 annually to the R.M. of Hanover, and approximately
9 \$1.5 million of direct economic activity annually
10 here in southeastern Manitoba. In relative terms,
11 I am a small producer. However, I feel, even as a
12 smaller producer, my farm makes a significant
13 contribution to my local community and to my
14 province.

15 Our family farm has always been
16 working toward doing what is best for our
17 environment, long before "environment" became a
18 politically expedient topic. The environment has
19 been a priority for me and my family, not because
20 it happens to be "politically correct" at the
21 moment, but because our livelihood absolutely
22 depends on taking the best care possible of the
23 land which sustains us. That is the most basic
24 fundamental of farming, and every farmer knows
25 that.

1 One of the environmental focuses we
2 have made a priority on our farm is that of
3 reducing transportation, despite, I might add, the
4 political decisions which continue to frustrate
5 that priority, such as tearing up of rail lines.
6 I try, as much as possible, to reduce the distance
7 needed farm inputs must travel, as well as
8 reducing the distance outputs must travel.

9 My hogs are raised from birth to
10 market weight on one site, eliminating
11 transportation to additional sites. As much land
12 as possible is fertilized with hog manure, all
13 within a one mile radius of the barns. I grow
14 most of the feed grains my hog enterprise requires
15 on my own land, reducing the fuel required to haul
16 it in, as well as the impact on our roads and
17 highways.

18 An on-farm mill prepares various
19 rations daily. Grain corn is harvested and stored
20 in a sealed silo as high moisture grain, allowing
21 for earlier harvesting of the crop, eliminating
22 the energy required to dry the corn to point where
23 it can be stored in conventional bins, and moving
24 the harvested corn only once, that is from the
25 field to the corn silo, from where it goes

1 directly into the mill as needed. Using a
2 computerized liquid feeding system allows for the
3 use of high moisture grain in our rations.

4 Hog manure is stored in a three-celled
5 earthen lagoon, and injected into the soil after
6 harvest each year. Soils are tested, as are the
7 manure samples, all application best practices and
8 regulations are adhered to. Global positioning
9 systems allow us to map manure application and are
10 also used for greater cropping precision and a
11 consequent reduction in fuel consumption in all
12 areas of seeding, caring for and harvesting our
13 crops. Crop residues are re-incorporated into our
14 soils, constantly adding to the organic matter, an
15 important contribution to the health of our heavy
16 clay soils here in Manitoba.

17 Rempelco Acres is fully certified
18 under the Canadian Quality Assurance Program for
19 Hog Producers, a program which requires detailed
20 record keep of all procedures and production
21 practices, and includes an annual review,
22 inspection and verification.

23 That is a very brief snapshot of my
24 own farming operation. It is a descriptive
25 snapshot, not a prescriptive one. Every farm has

1 its own unique advantages, as well as challenges.

2 I would like to use the rest of my
3 presentation time this afternoon to address the
4 "bigger picture," if I may. Over the thousands
5 and thousands of years that agriculture has
6 developed, it has only been in the past 40 or 50
7 years that crop production has become so reliant
8 on petroleum-based nitrogen fertilizer. I doubt
9 that 40 or 50 years into the future the
10 petroleum-based option will exist for farmers. It
11 is not an economically sustainable soil nutrient
12 source, in the long term. Costs of nitrogen
13 fertilizers have increased 50 to 80 percent in the
14 past six months. And we are being warned of
15 shortages already for this spring's seeding
16 season, irrespective of the formidable cost.

17 Farmers have traditionally born the
18 responsibility of food production. However, the
19 focus is quickly adding on a responsibility for
20 fuel production as well. Crops only grow well in
21 well-nurtured soil, and I'm here to say to you
22 that animal manure is an extremely important
23 component in maintaining and increasing soil
24 productivity. Manure is not a waste product. It
25 is a vitally important resource, part of the

1 completely natural, organic, very holistic
2 nutrient cycle. To curtail production of animal
3 manure is extremely shortsighted and
4 ill-conceived. Manitoba, and the rest of the
5 prairies, are in a huge manure-deficit position.
6 We need not only increased hog production, but
7 also increases in production of cattle, sheep,
8 goats, et cetera. The future of our food
9 production depends on it.

10 Twenty years ago I told my fellow
11 farmers that some day we would raise hogs
12 primarily for their manure and, secondly, for
13 their meat. That prediction is apparently a
14 reality in some parts of the U.S. corn belt.

15 In our province, and in our country,
16 at least 98 out of every 100 people live in urban
17 centres. They have fled from the rural
18 communities, and from farming, for a variety of
19 reasons, which include: The hours are too long,
20 the work is too hard, the return on investment is
21 too small, the amenities are too few, the areas
22 too isolated, the financial stakes are too high,
23 and the vulnerability to weather is too stressful.

24 And that's fine. We live in a
25 democracy. And each individual has the right to

1 choose where they wish to live and how they wish
2 to make their living. But I am one of those
3 minority one or two percent of the population who
4 believes that the most important, the most
5 fundamental component of any healthy, successful
6 society is its food production and distribution
7 systems. For those 98 or 99 percent of the
8 population, who want nothing to do with the risks,
9 exposures, and plain hard work of farming, to now
10 turn and sit in uninformed judgment on those few
11 people still left producing foods in the
12 countryside; that is what is so painful for
13 farmers. We have accepted the responsibility for
14 producing safe, high quality food of a consistent
15 and constant quantity for all of our urban
16 citizens. And we accept that responsibility
17 because we are acutely aware that our society
18 would collapse without us, even though it feels
19 like a rather lonely awareness at times. We have
20 accepted all the risks and challenges that come
21 with food production. And some of us have gone
22 broke and died because of the willingness to
23 sacrifice everything for the common good. That's
24 what makes farmers who they are: very tenacious,
25 resilient and eternally optimistic by nature.

1 To encourage responsible application
2 of animal manure is appropriate. What is so
3 discouraging for us as food producers, are
4 "regulations", or often more accurately,
5 "restrictions on production", born not out of good
6 science or rational debate, but out of misguided
7 and misinformed emotions of some urbanites, whose
8 main value in our political system is, apparently,
9 the number of their votes. Well-meaning though
10 they may be, they are responsible for a
11 significant crippling of food production in our
12 province and in our country. The moratorium on
13 hog production in Manitoba would fall into this
14 category.

15 The attempt of this province's
16 government, and some of its citizens, to place the
17 responsibility of the algae blooms in Lake
18 Winnipeg on hog producers is a travesty. Hog
19 producers have been far ahead of all other
20 Manitoba livestock sectors, as well as
21 non-livestock sectors, in responsibility, and
22 highly monitored, manure management and
23 environmental stewardship for many years already.
24 We continue to use vast amounts of our own money
25 to fund research which direct us into the future

1 in ever more accurate application monitors and
2 equipment, fine tuning feed rations to further
3 reduce amounts of excreted phosphorous, and so on.
4 We accept that we may be contributing one percent
5 of the phosphorous entering Lake Winnipeg, and
6 will continue to work hard to reduce that amount.
7 However, for the government and people of this
8 province to focus on that one percent is very
9 shortsighted. The repercussions of putting on
10 hold the sector of agriculture which has been the
11 most viable sector over the past two decades will,
12 unfortunately, be felt for a very long time.

13 The second greatest frustration and
14 disappointment has been the abdication of support
15 from our elected representatives. Publicly funded
16 research in the area of agriculture has declined
17 very significantly and seriously over the past 15
18 years. The vast majority of research is now
19 producer funded, and is a huge financial burden
20 which farmers cannot continue to bear over the
21 long term. However, even more disappointing is
22 the complete lack of public and political support
23 for primary food producers. No one in leadership
24 is standing up and saying anything about the
25 crucial importance of food production in our

1 society.

2 I, and my colleagues, have every
3 confidence that you, as Commissioners of this
4 current set of hearings, will do your jobs with
5 thorough diligence, equity and fairness, and
6 complete competence, just as numerous previous
7 Commissions have done. There are shelves piled
8 high with reports on livestock production,
9 especially including hog production in Manitoba.

10 As I stated earlier, I am indeed
11 appreciative, and grateful, for the opportunity to
12 make a presentation to the Commission.

13 Unfortunately, I, and my fellow farmers, have very
14 little confidence that those to whom you will hand
15 your final report, will have the courage to stand
16 up and act on the report; to speak a word of
17 appreciation and support for those who are
18 providing their daily food.

19 Every society which fails to honour
20 the fundamental and crucial importance of primary
21 food production is doomed to fail. History of
22 examples.

23 Thank you.

24 THE CHAIRMAN: Thank you very much,
25 Ms. Remple. We will probably have a question or

1 two. Could you tell me a little bit more about
2 your farm? I'm sorry, you did have the numbers in
3 there. You run a 500 sow, farrow to finish,
4 operation?

5 MS. REMPLE: That's right.

6 THE CHAIRMAN: And 1500 acres of
7 cropland. Does your operation provide enough
8 fertilizer for your 1500-acres or do you have to
9 augment that with commercial?

10 MS. REMPLE: My hogs provide enough
11 fertilizer for about one-third of the crops on an
12 annual basis.

13 THE CHAIRMAN: Is there sort of a rule
14 of thumb as to how much acreage is fertilized? I
15 guess they are -- I guess they are of varying
16 ages, so they would produce varying amounts of
17 manure?

18 MS. REMPLE: And because I have all
19 ages, that would hard for me to break it apart.

20 THE CHAIRMAN: I was interested in
21 your comment about -- you saying 20 years ago
22 about raising hogs primarily for their manure. Is
23 that the case in some parts of the Unites States
24 or some areas of the Unites States?

25 MS. REMPLE: That's what I was told

1 this winter, that there are corn producers in
2 Iowa, Nebraska, because of the cost, who are
3 buying manure for -- on par cost with what
4 petroleum-based nitrogen would cost.

5 THE CHAIRMAN: Just for the
6 fertilizer. And I had read both about the
7 increased prices and the impending shortage of
8 nitrogen fertilizer. Is it as much as 40 to
9 50 percent?

10 MS. REMPLE: It is.

11 THE CHAIRMAN: That will be
12 particularly hard. And the Canadian Quality
13 Assurance Program for hog farmers, you may not
14 know this, or have any idea how many hog farmers
15 are part of that organization or that process or
16 subscribe to that process?

17 MS. REMPLE: I could only speak for
18 Manitoba. And as far as I know, there are very,
19 very few producers who aren't.

20 THE CHAIRMAN: Who are not?

21 MS. REMPLE: Because we need to be
22 certified under the Quality Assurance Program to
23 able to have our animals slaughtered.

24 THE CHAIRMAN: To have?

25 MS. REMPLE: To have our animals

1 slaughtered in this province.

2 THE CHAIRMAN: And if they are
3 slaughtered abroad, south of the border, which I
4 think a majority are, do they have to be Quality
5 Assurance certified as well?

6 MS. REMPLE: In most cases. There may
7 be some exceptions I am not aware of.

8 THE CHAIRMAN: Edwin?

9 MR. YEE: Yes. Ms. Remple, in terms
10 of your operation, do you have manure storage at
11 your operation?

12 MS. REMPLE: Yes, earthen lagoon
13 storage.

14 MR. YEE: And in terms of your
15 incorporation into your crop fields, do you use
16 injection?

17 MS. REMPLE: Yes.

18 MR. YEE: And do you contract this out
19 or do it yourself?

20 MS. REMPLE: It's contracted out.

21 MR. YEE: Okay. And I gather, from
22 your information here, that you are using the
23 global positioning system, or the applicator uses
24 that?

25 MS. REMPLE: Yes.

1 MR. YEE: I have heard that a few
2 times already. I guess the only question I will
3 ask you is that I gather you do your own feed for
4 your hogs?

5 MS. REMPLE: Yes.

6 MR. YEE: And in doing so, are you
7 using phytase or other enzymes for phosphate
8 reduction?

9 MS. REMPLE: Yes.

10 MR. YEE: And I guess an ancillary
11 question to that is, do you feel that the new
12 regulations to the phosphate requirements will
13 have a significant impact on your operation or the
14 manure spreading on your fields?

15 MS. REMPLE: On my operation, probably
16 not much, because I don't have enough manure land.
17 Very little of my land ever gets manure two years
18 in row, and so I am really not facing any
19 phosphorous buildup on my own land.

20 MR. YEE: Thank you.

21 MS. REMPLE: Thank you, Mr. Chairman.

22 MR. MOTHERAL: Ms. Remple, I very much
23 like the way you put words together, and I think I
24 mentioned that in the scoping meetings also. I
25 enjoyed your presentation. I am especially seeing

1 that I still have my fingers personally in the
2 farming operation and I am of that one percent or
3 two percent. And my question to you is, do you
4 have any suggestions as to what that one or two
5 percent can do to improve to the awareness of
6 agriculture to our fellow urbanites?

7 MS. REMPLE: Wow, if I had an answer
8 to that.

9 MR. MOTHERAL: I am just asking for
10 your suggestions. And I know that it has been a
11 problem. And I know that Keystone Agricultural
12 Producers have been working on this and that it is
13 an important part of this whole process, I realize
14 that.

15 MS. REMPLE: Yes, definitely. As
16 farmers, we have struggled with this. And for all
17 of my farming career of 30 years, we have been
18 trying very hard to continue getting our message
19 out into the media and having opportunities where
20 urban folks can see the operations, whether it is
21 the heart of the Continent Fair, or whether it's
22 demonstration sites there at the University of
23 Manitoba, for example, that has now been
24 constructed. But it seems that it feels like a
25 very difficult task that we seem to be losing.

1 There is more disconnection between food producers
2 and consumers, it seems, than ever, and I say that
3 with sadness. And I also say that with one
4 percent or two percent of us left producing the
5 bulk of the food, it's hard to take any more time
6 to spend dedicated to communicating our message
7 continually. You know, take own farm, on my own
8 farm, this is on my own time, this afternoon. And
9 the time that I spent preparing this report is my
10 cost, as well. And, you know, I find that there
11 is an end to how much producers can sacrifice in
12 terms of their time and their efforts to keep
13 telling their story over and over again. And I
14 know it's important, I agree with you.

15 MR. MOTHERAL: And it is something --
16 I am not saying it may or may not be in our
17 report, but it is something that the bigger
18 picture is certainly important in the whole
19 situation. It comes up several times. It comes
20 up several times, and I know we have -- our report
21 needs to be focused on the hog industry itself
22 because that's what the Minister asked us to do.
23 But I think there are a lot of other things that
24 we have to look at, too.

25 Thank you for these words. And I will

1 say, again, that it's a feather to you, or
2 whatever it is, for the way you put words. Thank
3 you.

4 MS. REMPLE: Thank you.

5 THE CHAIRMAN: I heard you saying that
6 this is taking a lot of time. But it sort of
7 reminded me, while you were talking, of a couple
8 of summers ago when, during the height of the BSE,
9 when the beef farmers had their barbecues down on
10 Portage and Main, that thousands of Winnipeggers
11 realized that cows come from their backyards and
12 not from a Safeway truck. But it does take time
13 and it does take the commitment. Thank you very
14 much for your presentation and for taking the time
15 to come out here today.

16 Dan Klippenstein. State your name for
17 the record.

18 MR. KLIPPENSTEIN: Dan Klippenstein.

19 DAN KLIPPENSTEIN, having been sworn, presents as
20 follows:

21 THE CHAIRMAN: Go ahead, sir.

22 MR. KLIPPENSTEIN: Good afternoon,
23 ladies and gentlemen.

24 My name is Dan Klippenstein. I am the
25 President of Excel Playgreen Group Inc., which is

1 a hog production company operating a number of hog
2 farms in Manitoba, two of which are in La
3 Broquerie. In addition, we operate a manure
4 application company, which works on quality manure
5 application to farm land for our farms and
6 commercially.

7 I grew up on a small hog farm in the
8 New Bothwell, Manitoba, where my brother farmed
9 until 2003. My career path took me in a different
10 direction, and I left the family farm to attend
11 the University of Manitoba where I graduated with
12 a degree in agriculture, majoring in animal
13 science in 1979. I then worked in the Manitoba
14 swine industry, as a swine specialist, for a
15 number of private companies until 1991, when I
16 became involved in my own hog operation. In 1994
17 I graduated from the University of Manitoba with a
18 Masters Degree in Business Administration.

19 I have been involved in hog farming
20 since I could walk. I have seen the system
21 develop from a loose housing system that gives
22 little animal care, to a controlled quality animal
23 care system, incorporating the use of stalls to
24 house the sows, resulting in less fighting with
25 better individual feed availability and care.

1 For all the people who claim that they
2 are concerned about animal care on the farm and
3 advocate changing the systems because they know
4 best, I recommend they spend a year working on a
5 hog farm and learn how to take care of pigs. As
6 farmers, our job is to care for the animals, the
7 environment and the protection of the water. That
8 is why, at our farming operations, we have
9 implemented a number of programs to help reduce
10 the environmental impact.

11 I started Excel Playgreen Group, Inc.
12 in 1994 with the help of family and friends as
13 investors. Excel Playgreen currently employs
14 about 50 people in Manitoba, with a payroll of
15 over \$1.5 million. In addition, we purchase over
16 \$5 million in feed to feed the pigs, plus hundreds
17 of thousands of dollars in other services from
18 Manitoba suppliers. This is a large impact on the
19 local economies around the barns.

20 We also sell many of our hogs into the
21 U.S., which provides additional trade dollars for
22 Manitoba and our economy. Being able to produce a
23 product cheaper than our competitors is what
24 drives agricultural trade. Some of the policies
25 the government has adopted are increasing our

1 costs. The government should not develop
2 artificial barriers that create costs with very
3 benefit.

4 Currently, the market in Canada is in
5 an extremely tough situation. The market price
6 has decreased by 15 percent, compared to the year
7 before, with no decrease in input costs, according
8 to Stats Canada. Farmers, other than supply
9 managed farmers, are not able to pass on any
10 additional cost. Hog farmers take the price the
11 market gives them. Thus increasing regulation
12 directly impacts the survivability of a farm
13 enterprise. Thus, farms have to continually
14 strive for greater efficiency to remain viable in
15 a very competitive industry.

16 When we first constructed the first
17 barn, we built a concrete manure storage tank
18 because the soil was sandy and was not good for
19 lagoon construction. An earthen lagoon would not
20 have been as secure a storage system to store our
21 manure. This was before lagoon permits were
22 required and lagoons could be built without much
23 thought. Concrete lagoons also help reduce odour,
24 which benefits the neighbours.

25 When we expanded the first farm, we

1 put in a manure separation system, so that could
2 separate some of the solids from the liquids,
3 which gives more control over application rates,
4 with lower phosphorous levels in the more liquid
5 tank. This was so that we had more opportunity to
6 manage the resources of manure for maximum
7 environmental benefit.

8 I would like to talk about
9 technological advances. With that same concern,
10 we have adopted the use of many new technologies
11 to help decrease costs. These technologies also
12 improve the environment through more efficient use
13 of nutrients and less excess. The following are
14 some of the technologies we have adopted at our
15 farms. And I will describe each and how it
16 benefits the environment and reduces the nutrient
17 load on the land.

18 Phytase is a product that has become
19 more available in the last few years and has
20 become less expensive. It is an enzyme that
21 breaks down the phytate phosphorous stored in the
22 grain and makes it available to the animal in its
23 production process by way of the TCA cycle. We
24 have used this enzyme for a number of years on a
25 trial basis, and went to full inclusion in all of

1 our rations about two years ago. The enzyme can
2 replace the inorganic phosphorous in late grower
3 finisher rations and still maintain growth rates.
4 This reduces the amount of phosphorous that we
5 apply to the land.

6 Net energy formulation. Just recently
7 we have gone to net energy formulation for our
8 rations. This actually decreases the amount of
9 protein in the ration and utilizes more synthetic
10 amino acids, thus reducing the total nitrogen
11 excreted by the pigs. This decreases the amount
12 of nitrogen in the manure and reduces the amount
13 of nitrogen that needs to be applied to the land.

14 Phase feeding is another management
15 process that we have adopted at our farms. This
16 management strategy attempts to target the right
17 amount of nutrients available at the right time.
18 As pigs get older, they need less protein,
19 phosphorous and other nutrients in their diet.
20 Therefore, by phase feeding the nutrients that
21 they require are provided without creating excess
22 or waste nutrients that need to be disposed of
23 later. This practice not only saves the
24 environment, it saves the feed costs as well.

25 Split sex feeding. Another practice

1 that is similar to phase feeding is split sex
2 feeding, where males and females are fed
3 differently based on their needs. This reduces
4 excess nutrients that are not utilized properly by
5 the one sex, since it is more than it needs, and
6 makes sure the other sex gets adequate supply of
7 nutrients, thus reducing excess nitrogen and
8 phosphorous in the manure.

9 Soil samples. We monitor the soil so
10 that we can determine how much nitrogen we can
11 safely put on the soil. Now with the new
12 regulations, we will also monitor the amount of
13 phosphorous that is in the soil and how much can
14 be applied.

15 Water conservation. One of the
16 misconceptions is that hog barns waste a lot of
17 water because it is free. I'll have you know that
18 the water that is wasted is not free. It costs
19 about three-quarters of a cent to pump every
20 wasted gallon of water on to the field. So we
21 have undertaken a number of measures at the farm
22 to limit water use.

23 We have installed wet/dry feeders to
24 reduce the water use and water wastage. This
25 meter collects feeder collects all of the water in

1 the trough so that the pigs can drink it later,
2 instead of letting it fall into the pit. A
3 maintenance program has been established to repair
4 any dripping water equipment immediately, so that
5 the amount of water lost is reduced.

6 The farms also use hot water to wash,
7 which reduces washing time and the amount of water
8 used. Water use is less than 10 percent of the
9 water that falls on the land where the barns are
10 located. And when calculating the rainfall on
11 total lands owned, water use would be less than
12 two percent of annual rainfall.

13 Manure demand: In areas where farms
14 are located, there are many farmers who very much
15 appreciate the manure from our farms on their
16 lands, since it improves their crops and reduces
17 their costs. We give this manure to the farming
18 neighbours and pay the costs of application. We
19 do this to be good neighbours. And, in many
20 cases, they return this favour by providing us
21 straw or helping us with other services, as good
22 neighbours do. Many of our neighbours would like
23 us to build additional farms so that they could
24 get more manure.

25 Manure application. There are many

1 technologies used to monitor the proper
2 application of manure. Nitrogen testers, which
3 test the manure, are used on site by our
4 application company to monitor the amount of
5 nitrogen that is applied to the land and the
6 concentration of nitrogen in the manure.

7 The application equipment we operate
8 has a GPS system on board which can track the
9 application rate and provide detailed analysis of
10 how much manure was applied to the land, as well
11 as where it was applied.

12 Manure, when applied to cultivated
13 land, is injected into the soil to maximize plant
14 availability and crop growth. When applied to
15 grass, it is dribbled on to the land and the grass
16 takes up the manure.

17 Manure analysis is done on the manure
18 at a recognized lab to establish the nutrient
19 level in the manure. This is used for planning
20 future applications in conjunction with the
21 nitrogen tester at the site.

22 In conclusion, with all of the steps
23 we have taken to be environmental stewards, the
24 current situation is that we still have to
25 increase our land base to meet the current

1 regulations, which I call the Push Bush Law. In
2 order to meet some of the demands of the new
3 regulations, we will have to create more
4 grassland. This means clearing more bush to
5 create more land, creating deforestation of the
6 area. And while I would prefer to leave the land
7 in bush, we, unfortunately, will have to start
8 removing bush this year in order to meet the 2013
9 deadlines. We are fortunate in that we own two
10 sections of bush, which we can turn into hay land
11 to grow crops and fertilize with our manure.

12 Our current spread lands would be more
13 than sufficient under the current nitrogen
14 application rules. And, quite possibly, it could
15 be adequate for the phosphorous application rules,
16 if adequate time was given to develop and adopt
17 new technologies that could decrease the need for
18 additional land. It is important that the
19 government provide significant financial
20 assistance to the industry to help us adjust and
21 develop new technologies.

22 1 percent hogs, 99 percent politics,
23 this is the economic environment that is currently
24 unprofitable. And even without the "pause," there
25 would have been few new hog barns built. What the

1 "pause" did was create, in the mind of the
2 population, that there is something wrong with hog
3 production or the government would not have put on
4 the "pause".

5 The new regulations will do little, if
6 anything, to reduce the phosphorous load in Lake
7 Winnipeg. Being that only one percent of land is
8 manured with hog manure, I would contend that if
9 there were no hog barns in Manitoba, there would
10 be no change in the amount of phosphorous that
11 would enter the lake. Since all of the land that
12 currently receives hog manure would receive
13 inorganic phosphate in order to grow crops, the
14 total phosphorous on the land would stay the same.

15 As hog farmers, we have done a good
16 job of adopting new technologies to reduce the
17 environmental impact. We have always stepped up
18 to the plate to ensure that our environment is
19 sustainable. After all, our families live here.
20 And we take care of our families, just like you.
21 Thank you.

22 THE CHAIRMAN: Thank you,
23 Mr. Klippenstein. You noted on your first page
24 that the market price has decreased by 15 percent.
25 Is that universal?

1 MR. KLIPPENSTEIN: Yes. Well, that's
2 in Manitoba, which would be universal. Well, it
3 would be in Canada, not the U.S., necessarily,
4 because the exchange rates impact things.

5 THE CHAIRMAN: I was quite interested
6 in some of your technological advances. I think
7 it was the first time I had heard of phase feeding
8 and the split sex feeding. Is that a fairly
9 common practice?

10 MR. KLIPPENSTEIN: It's relatively
11 common. I don't know. Most of the larger
12 companies probably do it. I am not sure about the
13 smaller operations.

14 THE CHAIRMAN: And is this use of
15 technology, whether it's these feeding practices
16 or the use of phytase, or your water conservation
17 practices, are they things that any hog farmer, no
18 matter how big or small, could do, or is this
19 something that really only bigger operations can
20 afford to do?

21 MR. KLIPPENSTEIN: Well, anybody can
22 feed phytase, you know.

23 THE CHAIRMAN: Yes.

24 MR. KLIPPENSTEIN: And, you know,
25 phase feeding, it depends on the size of the

1 operation. But any operation that's 500 units,
2 farrow to finish, probably could do it. Split sex
3 feeding is a little bit more difficult, unless
4 you're larger. But, you know, depending how much
5 it would cost to implement all of that in the
6 smaller operations.

7 THE CHAIRMAN: And just how big is
8 your operation? How many?

9 MR. KLIPPENSTEIN: We have about 7,000
10 sows, finish half in Manitoba and the other half
11 in the U.S.

12 THE CHAIRMAN: 7,000 sows. I was also
13 interested in your comments about having to clear
14 land to get more land available. We heard
15 yesterday that hog manure provides enough to
16 fertilize about six percent of the land in
17 Manitoba. And you said in your report, as well,
18 that other farmers around you, and Ms. Remple said
19 the same thing, that other farmers, who don't
20 necessarily have hogs, like to get their hands on
21 this fertilizer. If there is such a demand for
22 it, why do you need to clear more land?

23 MR. KLIPPENSTEIN: I guess it depends
24 on the management practice of the land. Some of
25 the land that we have grazes cattle. And cattle

1 grazing doesn't really uptake phosphorous. So we
2 have to -- you know, unless the land owner starts
3 cropping the land, or cutting the hay and baling
4 it and pulling it off, we will have to find more
5 land that we can do that, you know, that we can do
6 that to use up the phosphorous. And I guess in
7 the area where we are in, La Broquerie, that's a
8 little bit of an issue because a lot of land there
9 is pastured by cow.

10 THE CHAIRMAN: And most of your
11 operations is in around La Broquerie? You said
12 around La Broquerie.

13 MR. KLIPPENSTEIN: Two up in La
14 Broquerie and four up in the Fisher Branch area.

15 THE CHAIRMAN: Thank you. Edwin?

16 MR. KLIPPENSTEIN: You are welcome.

17 MR. YEE: Yes. Mr. Klippenstein, I am
18 just wondering, in terms of acreage per spread
19 fields, I realize your operations are in different
20 locations but, approximately, how many acres of
21 land are using for your spread fields?

22 MR. KLIPPENSTEIN: Well, I guess it
23 varies, depending on each farm little bit. But
24 total acreage that we have available is
25 probably -- I have never added it up, but probably

1 roughly 3,000 acres or something like that.

2 MR. YEE: And you would need
3 additional -- based on the new phosphate
4 amendments?

5 MR. KLIPPENSTEIN: Yeah.

6 MR. YEE: Additional land on top of
7 this?

8 MR. KLIPPENSTEIN: Yes, in the La
9 Broquerie area.

10 MR. YEE: In the La Broquerie area,
11 yes, great. One point you made earlier on is that
12 some of the policies that the government have
13 adopted have increased your costs. And, in
14 particular, you mentioned that government
15 shouldn't develop artificial barriers. And I was
16 wondering, could you explain what artificial
17 barriers you are referring to here?

18 MR. KLIPPENSTEIN: Well, by
19 implementing regulations, like, for instance,
20 let's say the phosphorous regulations without, you
21 know, giving proper adoption or time or even, you
22 know, there is a lot of technologies that can be
23 used and stuff like that. What it does is raises
24 your costs. You have to move your manure further
25 or you have to do a whole bunch of things to your

1 land, do a whole bunch of things to take care of
2 it, you know, without -- you know, without giving
3 time to address and adopt, it is kind of just,
4 boom, this is how it is, and that kind of stuff.
5 And that creates additional costs and that creates
6 an artificial barrier for being competitive.

7 MR. YEE: You have mentioned also that
8 you use concrete storage tanks at all of your
9 facilities?

10 MR. KLIPPENSTEIN: All of our
11 facilities that we have constructed. We have
12 purchased a few that have lagoons.

13 MR. YEE: And you also made note that
14 you use a manure separation system. What type of
15 manure separation system?

16 MR. KLIPPENSTEIN: It's a concrete
17 tank with another concrete tank, where we drain
18 off the liquids on the one unit in La Broquerie,
19 and that's the expanded unit.

20 MR. YEE: So you are not using any
21 other technology like centrifuge?

22 MR. KLIPPENSTEIN: It's just basic
23 settling.

24 MR. YEE: And the only other question
25 that I was going to ask you, because we have heard

1 this from various people, is about the testing of
2 soils isn't sufficient. I was just going to ask
3 you, I realize you test every year, but how much
4 of this 3,000-acres is tested or how many samples
5 are taken?

6 MR. KLIPPENSTEIN: We sample every
7 quarter every year because we have to know what we
8 can apply when. And then we schedule, you know,
9 based on what the nutrient amounts are, on how
10 much we can apply where.

11 MR. YEE: So how many samples would
12 that be, one sample for a quarter section?

13 MR. KLIPPENSTEIN: I think they do 20
14 samples in a quarter.

15 MR. YEE: A composite?

16 MR. KLIPPENSTEIN: Yes. They do an
17 average of the manure. So the guys that we hire
18 test it, you know, do that and make core samples,
19 send core samples, send it for testing, and send
20 us the results.

21 MR. YEE: Thank you, Mr. Klippenstein.

22 THE CHAIRMAN: Is that once per year?

23 MR. KLIPPENSTEIN: Yes, generally,
24 it's once per year. Or if we have to apply a
25 second time on a piece of land, let's say in

1 spring or fall after the crop is off, then it
2 would be tested twice.

3 THE CHAIRMAN: And is that typical of
4 the industry?

5 MR. KLIPPENSTEIN: Yes, I think
6 everybody tests, you know, once a year.

7 THE CHAIRMAN: Okay, once a year.
8 Wayne?

9 MR. MOTHERAL: Thank you,
10 Mr. Klippenstein. I have almost got into a
11 different mode today after the first presentation.
12 I guess I'm looking at the bigger picture again.
13 I know there is a constant push for a cheaper
14 product all the time which, of course, is harder
15 on the margins. The margins get less and less.
16 And yet you say that you give your fertilizer
17 away. And I've often thought that there is value
18 to a natural product like that. But why wouldn't
19 you -- why would you be reluctant to charge for
20 it?

21 MR. KLIPPENSTEIN: Well, I guess, in
22 the areas that we are, which is mostly grassland
23 or a lot of that kind of stuff, farmers have been
24 reluctant to pay.

25 MR. MOTHERAL: Are you talking mainly

1 in the La Broquerie area?

2 MR. KLIPPENSTEIN: La Broquerie or
3 Fisher Branch, I guess. I mean, we rent -- where
4 we own the land, we rent the land out and the
5 manure gets put on to it, and this kind of stuff.
6 But it's been hard to extract a price for it in
7 our situation. There may be some areas that are
8 more cultivated areas where it would be easier.
9 But if you are not grain cropping, you know, you
10 don't have as much value in the -- or it is
11 tougher to extract a value, I guess, out of the
12 manure.

13 MR. MOTHERAL: And I realize, of
14 course, you did mention that you do get -- you
15 barter with it. And from your neighbours you get
16 other values and services and that.

17 MR. KLIPPENSTEIN: Yes.

18 MR. MOTHERAL: Your maintenance
19 program, you said that, like, for reducing the use
20 of your water, you said that a maintenance program
21 has been established. What would you say you --
22 what do you do to -- what does that mean?

23 MR. KLIPPENSTEIN: Well, I guess it's
24 the responsibility of the people at the farm that
25 if they see water leaks that they fix them.

1 MR. MOTHERAL: Okay.

2 MR. KLIPPENSTEIN: Instead of letting
3 them leak and leak and leak to fill the lagoon.

4 MR. MOTHERAL: It's not something with
5 a monitor on it.

6 MR. KLIPPENSTEIN: No.

7 MR. MOTHERAL: It has to be visually
8 seen?

9 MR. KLIPPENSTEIN: Yes. We have --
10 yes, it is visually seen. But we do have water
11 metres on all of our barns and, you know, report
12 the water usage annually.

13 MR. MOTHERAL: And you do mention a
14 manure separation system. And we have heard that
15 in a few areas in the province, too, as one of the
16 technologies that is still being worked on, I
17 understand.

18 MR. KLIPPENSTEIN: Right.

19 MR. MOTHERAL: And right now it is
20 quite expensive.

21 MR. KLIPPENSTEIN: Yes, if you go to
22 real separation or really where it really pulls
23 out all of the solids, and stuff like that, then
24 it gets very expensive. You know, in our
25 situation we kind of separate some the solids by

1 settling out. And that gives us two options; one,
2 a higher nitrogen application, which is more
3 nitrogen and less phosphorous, and then one that
4 is higher phosphorous, you know, more solids type
5 of application.

6 MR. MOTHERAL: Do you feel that in the
7 future, supposing there was a need to do this, to
8 go into a separation system where, if you didn't
9 have sufficient land and you had to do this in
10 order to dispose of your manure, would the --
11 would there be a value to that product, that
12 by-product, the solid product that comes out of
13 that thing, would there be enough there to pay for
14 the installation of the separation system?

15 MR. KLIPPENSTEIN: There quite likely
16 could be. I think that there would have to be
17 some coordination by government to kind of get the
18 system moving so that it could actually trade, you
19 know, or that the value could be realized and that
20 kind of stuff. Because, you know, it wouldn't
21 just establish on its own because, you know, your
22 costs of hauling could become too big a factor.
23 There are a lot of logistical things.

24 MR. MOTHERAL: It's just that in
25 areas, for instance, like Hanover, where there

1 is -- you know, it is probably one of the most
2 highly populated areas in Manitoba for ILOs in the
3 province.

4 MR. KLIPPENSTEIN: Right.

5 MR. MOTHERAL: And there are a lot of
6 farms in the area that wouldn't require that
7 because they have sufficient land.

8 MR. KLIPPENSTEIN: Right.

9 MR. MOTHERAL: And I know that we have
10 discussed that here that with the new phosphorous
11 regulations and the timeframe that things have to
12 be done here, we are going to be looking more into
13 this.

14 MR. KLIPPENSTEIN: Yes, it's very
15 tight.

16 MR. MOTHERAL: Well, that's all I've
17 got. Thank you.

18 THE CHAIRMAN: Thank you very much for
19 coming out this afternoon, Mr. Klippenstein.

20 Next up on the agenda is John Kroeker.
21 John Kroeker. Please state your full name for the
22 record?

23 MR. KROEKER: John Kroeker.

24 JOHN KROEKER, having been sworn, presents as
25 follows:

1 THE CHAIRMAN: Go ahead, sir.

2 MR. KROEKER: Mr. Chairman, members of
3 the panel, ladies and gentlemen, good afternoon.
4 I'm John Kroeker, General Manager of Penner Farm
5 Services. Penner supplies livestock equipment to
6 hog, dairy and poultry producers.

7 My presentation will focus on our
8 relationship with the industry as a supplier of
9 livestock equipment and as a general contractor
10 for livestock housing facilities and relate
11 services.

12 Penner Farm Services and its related
13 companies have served the livestock industry in
14 Manitoba since the early 1960s. During that time,
15 we have seen many changes in the industry in new
16 technologies and farm practices. And as our
17 customers have expanded, our business has grown
18 with them.

19 Not so long ago, a producer would
20 decide on expanding his farm and be under
21 construction as soon as he could arrange his
22 financing. Last year it took nine months for a
23 producer to get approval for building permits,
24 manure storage permits, municipal hearings,
25 technical reviews and Manure Management Plans.

1 The lengthy and onerous process alone suggests
2 that we have an abundance of rules to ensure that
3 the industry is expanding responsibly.

4 As new issues arise, more rules are
5 expected. Our producers are just as adaptable as
6 producers in other countries noted for hog
7 production. Europe continues to have a
8 sustainable industry, without banning expansion,
9 despite higher human and livestock populations per
10 acre.

11 Manitoba has more stringent rules than
12 most jurisdictions in North America, yet only
13 Manitoba and Quebec have taken the extraordinary
14 political measures of targeting the hog sector
15 with a ban on new permits. This is wrong. We
16 should be addressing all of the sources causing
17 the environmental concerns and applying the same
18 rules to everybody.

19 When new rules need to be implemented,
20 we need a more fair and responsible process than
21 the one the government is putting the hog industry
22 through today. I would suggest a notice period
23 that allows for a graduated transition to full
24 compliance of the new regulations, especially if
25 new technology needs to be acquired or if

1 significant capital needs to be invested. The
2 government should provide incentives to existing
3 operations to offset the additional capital
4 investment required to meet the new regulations.
5 Then let the industry decide if they want to
6 continue expansion within the new rules.

7 All of the industry stakeholders I
8 know want to use sustainable environmentally
9 responsible farm practices. The industry
10 recognizes that we need rules to sustain their
11 farms, as well as our environment. Sustainability
12 of the hog industry really hasn't been in question
13 until we started hearing about the algae blooms in
14 Lake Winnipeg. Opponents of the hog industry have
15 tried to link it as the culprit. The Lake
16 Winnipeg Stewardship Board would say that the
17 problem is caused by many sources. However, only
18 the hog industry has been banned from expanding.
19 It's extremely unfair to blame one producer group
20 for concerns caused by many sources, especially
21 when over half of the phosphorous loading concerns
22 arise outside of the province. It would make more
23 sense, in addressing the phosphorous problem, that
24 everybody contributing to the problem would bear a
25 proportional share of the solution. The hog

1 industry should not be singled out.

2 Southeastern Manitoba is thriving
3 today because of a strong mixed farming
4 agricultural base. We have watched several
5 generations of producers expand their farms
6 through diversification and growth, as they have
7 attempted to keep their children interested in
8 farming. Our towns and cities are thriving
9 because our producers are leveraging their
10 cropland into prosperous livestock facilities that
11 employ thousands. Businesses in the region have
12 thrived supplying services to these enterprises.
13 Our schools are full and bursting at the seams,
14 where many other rural regions in the province are
15 seeing continued decline in rural populations. It
16 is no accident that Hanover and La Broquerie, with
17 the highest densities of livestock in the
18 province, are seeing population increases, while
19 other rural municipalities continue to decline. I
20 would suggest that our strong farm base is the
21 main reason Steinbach is growing faster than
22 Brandon.

23 Most of the producers in Hanover and
24 La Broquerie would agree that the arable land base
25 is fully utilized within these municipalities.

1 And I was just educated with Marg's report that
2 that may not be the case. Paying attention to
3 soil loading, water quality and drainage makes
4 sense. Good farmers do that because they
5 understand that it is essential to their long-term
6 viability. Restricting manure application to
7 phosphorous levels makes sense if it is causing an
8 environmental problem. Those rule changes were
9 already public prior to the Hog Industry Review.
10 We don't need an industry pause to change the
11 rules, any more than we need a ban on driving
12 while we consider a change in speed limits.

13 Questioning the sustainability of the
14 hog industry throughout the whole province because
15 we want to change the manure application rates in
16 one region that has a high density of livestock
17 doesn't make any sense. We still have thousands
18 of acres of land in Manitoba that have not seen
19 any manure applied to it. These regions are
20 applying chemical fertilizers to their cropland
21 today. Using non-renewable resources to produce
22 fertilizer surely isn't a sustainable practice.
23 Recycling the undigested feed nutrients back to
24 the field they came from, to be used for the next
25 crop, is a sustainable practice that has been used

1 for centuries. Why are we preventing low density
2 livestock regions from expanding into hog
3 production today if it would make their farms more
4 viable, create employment and build stronger rural
5 communities?

6 The effect of the moratorium on new
7 hog facilities is having a huge impact on our
8 company. We are looking at a 50 percent reduction
9 in sales for 2007 as a result of the pause. We
10 are forecasting a further reduction for 2008 if
11 this pause doesn't end soon.

12 We have employed over 70 people
13 directly in Manitoba last year, and our sub-trades
14 employed at least that many, as will. For many of
15 our staff, this pause means they will lose their
16 jobs. For our customers, it means they are losing
17 a lot of experienced people that could help them
18 with their problems. We can hire again once the
19 pause is lifted, but the experience will be gone
20 for many years.

21 On the construction side, our trades
22 are moving to other industries. We are projecting
23 that half of the experience that we have in our
24 construction trades today will leave, and not
25 return to the agricultural after they have

1 established themselves in a different market. We
2 are going to face a huge skill shortage in the
3 future grow that will limit the industry to grow
4 for many years.

5 Please encourage the government to
6 make a speedy resolution.

7 THE CHAIRMAN: Thank you, Mr. Kroeker.
8 Could I ask you just to expand a little bit as to
9 why you are predicting a 50 percent reduction in
10 sales?

11 MR. KROEKER: Because nobody is
12 building any barns.

13 THE CHAIRMAN: How many barns did you
14 anticipate would be built before this pause came
15 into effect?

16 MR. KROEKER: Well, not all the barns
17 are the same size. In terms of sales, we are
18 expecting to see a drop of at least \$10 million in
19 sales.

20 THE CHAIRMAN: I'm sorry?

21 MR. KROEKER: We are expecting to see
22 a drop of at least \$10 million in sales.

23 THE CHAIRMAN: And is the main part of
24 your business providing new equipment and new
25 barns?

1 MR. KROEKER: That would be a bigger
2 chunk, yes.

3 THE CHAIRMAN: Thank you. Edwin?

4 MR. YEE: Yes. Mr. Kroeker, in terms
5 of you mentioned, along with the downturn, the
6 reduction in sales, the loss of skill sets. What
7 particular skill sets would be lost, in
8 particular, to the agricultural sector?

9 MR. KROEKER: Well, your service
10 technicians, they learn something every time they
11 fix something. You have fewer of them. You have
12 fewer out there solving equipment problems. On
13 the construction side, your plumbers and
14 electricians and framers are leaving. And once
15 they are established in residential and
16 commercial, they won't be coming back to
17 agriculture.

18 MR. YEE: And you mentioned also, in
19 terms of the amount of -- there are thousands of
20 acres of land in Manitoba that have not seen any
21 manure applied to it. But we have heard from
22 people that the other issues of looking at using
23 other lands is the distance between where the
24 manure is generated and where it has to be spread
25 and that because you are increasing transportation

1 costs, that it may not be feasible to actually
2 utilize those lands. Do you have any comment on
3 that?

4 MR. KROEKER: Yes, I would like to
5 build barns there.

6 THE CHAIRMAN: I'm sorry, I missed
7 some of that?

8 MR. KROEKER: We would like to build
9 some barns there.

10 MR. YEE: Okay. Thank you,
11 Mr. Kroeker.

12 MR. MOTHERAL: Well, I just have the
13 one question. And you said that you have employed
14 over 70 people directly in Manitoba last year.
15 And with the sub-trades, it was probably that
16 many, as well. Because of the ban, have you lost
17 any yet?

18 MR. KROEKER: Sub-trades?

19 MR. MOTHERAL: No. Lost any
20 employees?

21 MR. KROEKER: Yes. We are down about
22 20 employees.

23 MR. MOTHERAL: Does that say that in
24 here?

25 MR. KROEKER: No, it doesn't say that

1 in here.

2 MR. MOTHERAL: You have lost 20.

3 Okay, that's all I've got, thank you.

4 THE CHAIRMAN: And that's directly
5 attributable to the pause?

6 MR. KROEKER: Some of it might be
7 seasonable, but we are not hiring them back.

8 THE CHAIRMAN: But has there been a
9 slow down in the industry? I mean, some people
10 have suggested to us that the industry has more or
11 less peaked in Manitoba. I am not saying that
12 that's the case, but some have suggested that. Is
13 some of your downturn because -- your downturn
14 because of -- largely because of the pause?

15 MR. KROEKER: Well, for this year,
16 yes. And for other years, I would say the
17 industry may have peaked a couple of years ago.
18 But we have still been working at a very healthy
19 pace.

20 THE CHAIRMAN: And what percentage --
21 you said that you provide equipment to hog, dairy
22 and poultry producers. What percentage of your
23 business is hogs?

24 MR. KROEKER: Probably upwards of
25 60 percent.

1 THE COURT: 60 percent?

2 MR. KROEKER: Yes.

3 THE CHAIRMAN: Thank you for that. I
4 have no more questions. Thank you for coming out
5 here this afternoon, Mr. Kroeker.

6 Next up on the agenda is Bob Schinkel.
7 Could you introduce yourself, please, for the
8 record?

9 MR. SCHINKEL: My name is Bob
10 Schinkel.

11 BOB SCHINKEL, having been sworn, presents as
12 follows:

13 THE CHAIRMAN: Go ahead, sir.

14 MR. SCHINKEL: My name is Bob
15 Schinkel. I'm a real estate agent/broker with
16 Prudential Riverbend Realty in Steinbach. I have
17 been in the real estate business for 30 years, 10
18 months, 10 months and 25 days, and let's say about
19 six hours. You've got to keep track when you are
20 having fun. Some people say I have one year of
21 experience repeated 30 times, but I think of that
22 kind of as my old school days. I don't know if
23 it's true or not.

24 I have spent my career selling real
25 estate primarily in Southeastern Manitoba. I

1 thought a highlight of my career would be when I
2 had a chance at selling a large tract of land
3 south of La Broquerie. It was about 2,000 acres.
4 We started marketing this property in 1984 and
5 1985, with really no success.

6 The property was owned by an Italian
7 firm that had purchased it from the Ansel
8 brothers. The Ansel brothers had leased the
9 property back from the Italians for 10 years with
10 an agreement that they would clear the land and
11 then farm it. The Ansel brothers, as they
12 attempted to clear the property and start farming
13 it, proceeded to go bankrupt. The land was
14 marginal, stony, treed land. The Italians, who
15 were attempting to dispose of it, contacted me to
16 dispose of it. Our marketing was unsuccessful.
17 And, as a last resort, we attempted to auction
18 this property in 80 and 160 acre parcels. This
19 was in the spring of 1986. We marketed this land
20 extensively with full page ads in the Carillon
21 News, and with advertisements in the Winnipeg Free
22 Press, et cetera. I thought this would be a
23 milestone in my career and propel me to ultimate
24 success.

25 We had set very low reserved bids.

1 After the first three properties did not meet the
2 reserved bids, the owner representative that was
3 there, in desperation, said: "We will sell the
4 next properties, no matter what the price, no
5 reserve bid." As I recall, those prices at the
6 time ranged in between \$27 and \$35 per acre.
7 These properties were sold to prospective hobby
8 farmers, farmer wannabees, and speculators. We
9 didn't sell all the land at the auction. However,
10 after the auction and, in the subsequent years, we
11 ended up selling all the land.

12 At the time, the roads were poor and
13 the property was basically undeveloped and had
14 poor drainage. I saw many pig people attempt to
15 earn a living there with beef farming and with
16 very limited success. Over the years, we resold
17 these properties a number of times. These
18 properties eventually ended up in the hands of hog
19 farmers that built new hog barns on these
20 properties. The area was remote to developed
21 housing and seemed to be an excellent location for
22 hog barns.

23 As this area developed with hog barns,
24 it gave the R.M. of La Broquerie a tax base and
25 allowed them to improve the roads and the

1 drainage. This also improved the land value, and
2 the manure applied to the land made this marginal
3 land more productive. Cattle capacity was
4 increased, and some of the land was opened up and
5 seeded into hay. Today these land values are in
6 the range of \$500 to \$600 per acre. I attribute
7 most of this to the hog farming and the increased
8 productivity of the land to the hog manure that
9 was applied to it.

10 If you look a little further south to
11 the Town of Zhoda, there is a rural two acre
12 development that was developed by Jake Wall, who
13 is commonly known as "square deal Jake". Jake had
14 a vision for Zhoda and the area and spearheaded
15 developing an airport there. He developed a
16 subdivision, built the roads, and attempted to
17 market these properties. He had very limited
18 success. These lots, in the early 1990s, were
19 offered at \$1,000 per lot. At the time, there was
20 very little in the way of jobs in the area. Today
21 these lots are selling for, or in the range of,
22 \$9,000 to \$12,000 per lot. A good number of the
23 people that work in the surrounding area in the
24 hog barns are gravitating to this area. Census
25 Canada tells us that the RM of La Broquerie has

1 grown at a rate of 26.4 percent from 2001 to 2006.

2 Now, let's compare this to the LGD of
3 Piney, which is immediately east of the R.M. of La
4 Broquerie. Piney has had a net population growth
5 of 67 people from the year of 2001 to 2006. Their
6 total population is 1,755 people, and it's a big
7 LGD. Myself, and I think every other real estate
8 agent in Steinbach will attest to this, that the
9 real estate agent's car stalls out when it hits
10 the boundary of the LGD of Piney. The chances of
11 selling real estate in Piney are extremely low.

12 The other painful thing, when you go
13 down there to sell real estate, is that you have
14 to tell the senior farmer, that's in his late
15 sixties or in his seventies, that the farm that he
16 has laboured on all of his life, and it is maybe
17 160 or 320 acres, is often not worth barely as
18 much as a modest home on a small lot in Steinbach.

19 Much of this can be attributed to the
20 lack of jobs available in Piney. The LGD of Piney
21 basically has an anti-hog policy. I chuckle when
22 I see the sign on Highway 12 going into the LGD of
23 Piney. And it says something like this: "Welcome
24 to Piney: No hogs, no smell." I was often
25 tempted to add to that sign and say: "No jobs, no

1 schools, last person out, turn off the lights." I
2 am not saying that every place needs hog barns to
3 have jobs. But hog barns do create jobs, and jobs
4 increase the value of real estate. And once you
5 have jobs, you need schools, you need hospitals,
6 you need infrastructure and then you have a
7 community.

8 Not long ago, I met an acquaintance, a
9 young blond lady, whose name I will not mention.
10 The last time I talked to her, she had been
11 working at a radio station selling advertising.
12 The conversation led to her present employment,
13 and she said she was working in a hog barn. And
14 her words were: "The pay is better and the
15 customers don't talk back." I didn't ask her
16 which customer smelled better. I really didn't
17 want to know.

18 The last point I want to make is about
19 water, and particularly about well water. There
20 has been a lot of discussion about hog and
21 agricultural operations contaminating the well
22 water. And I'm surely not an expert at it. As a
23 course of practice in our industry, and we are
24 required by banks, to test the water from all of
25 the wells on the properties that we sell for

1 e-coli and fecal bacteria.

2 In the 30 years that I have been a
3 real estate agent, neither I, nor anyone in our
4 firm, has ever had a drilled well that was
5 contaminated from the source. And in my
6 experience, the modern hog farmers today are
7 generally very good stewards of the land, and make
8 an effort to conserve the land that they make
9 their livelihood on.

10 In short, I feel the hog industry has
11 been a real asset and a benefit to our area, and
12 has added to real estate values and has increased
13 local wages.

14 Thank you for being able to express my
15 opinion.

16 THE CHAIRMAN: Thank you very much,
17 Mr. Schinkel. When you were giving us the growth
18 rates, La Broquerie was about 26 percent growth?

19 MR. SCHINKEL: Yes.

20 THE CHAIRMAN: And Piney was about
21 6 percent, is that what it was?

22 MR. SCHINKEL: No, it's actually less
23 than that. Well, it's 67 people, so it's about 4
24 percent.

25 THE CHAIRMAN: About 4 percent.

1 MR. SCHINKEL: Yes.

2 THE CHAIRMAN: I mean, I know from
3 reading the media, or from the media, the press
4 and radio, that's really both, isn't it, I mean,
5 that this area has been very successful in a
6 number of ways. Just today, I drove by the Layman
7 window plant and the Barkman Concrete. And I've
8 read about the fairly successful, not fairly, very
9 successful immigration programs that have
10 benefited this community, as well as others, in
11 southern Manitoba and southeastern Manitoba. How
12 much of this growth might be attributable to that,
13 as opposed to the success and growth of the hog
14 industry?

15 MR. SCHINKEL: Well, I mean, the hog
16 industry has a lot of spin-off benefits besides
17 the fact -- besides just the people working in the
18 barns. I mean, you've got the construction.
19 You've got the service after the fact. You've got
20 transport. You know, there is two large transport
21 companies; one in Steinbach, one in Blumenort that
22 does only livestock, livestock or hogs. So there
23 is a lot of spin-off. I surely wouldn't be
24 capable of determining where is which. But, in my
25 opinion, the hog industry has contributed greatly.

1 I mean, there is making feed, and so on and so
2 forth.

3 THE CHAIRMAN: Edwin?

4 MR. YEE: No.

5 THE CHAIRMAN: Wayne?

6 MR. MOTHERAL: Well, in a different
7 way, I mentioned to the first presenter she had a
8 lovely way of putting words together. And you
9 also have a very different way of putting words
10 together. It just reminded me that just last
11 week, I had the 40th anniversary of my 24th
12 birthday.

13 MR. SCHINKEL: That's kind of like me.

14 MR. MOTHERAL: I don't think -- as far
15 as any technical information here, I do know there
16 has been a lot of growth in here. In the area
17 that I originally came from, I would even love to
18 have the four percent growth. And the further
19 west you go, it is quite a bit different, even
20 four percent growth would be phenomenal there. So
21 you are doing well in this area, as far as that
22 goes. Thank you very much for your presentation.

23 THE CHAIRMAN: Can I just return to
24 your -- I think it was your first story about the
25 land that the Italian consortium bought and then

1 you marketed it. When you were describing the
2 land, you said it was rocky and not very good
3 land?

4 MR. SCHINKEL: That's correct.

5 THE CHAIRMAN: But now it is?

6 MR. SCHINKEL: It's improved greatly.
7 I mean, at the -- and, of course, drainage helps a
8 lot. Removing stones improves land.

9 THE CHAIRMAN: So these were things
10 that were done?

11 MR. SCHINKEL: These were things that
12 were done. The Ansel brothers started it.

13 THE CHAIRMAN: So it took a lot of
14 work to make the land into productive land?

15 MR. SCHINKEL: Yes. At the time, it
16 probably didn't make economic sense. As it turned
17 out, the end story was good. You know, like I
18 would guess that the Italians lost a lot of money
19 in that venture, to the benefit of the latter
20 owners.

21 THE CHAIRMAN: Okay, thank you. Okay.
22 Thank you very much. Thank you for coming out
23 this afternoon.

24 MR. SCHINKEL: Thank you.

25 THE CHAIRMAN: Next is Mayor Chris

1 Goertzen.

2 MR. GOERTZEN: Good afternoon.

3 THE CHAIRMAN: Please introduce
4 yourself for the record.

5 MR. GOERTZEN: I'm Mayor Chris
6 Goertzen from the City of Steinbach.

7 MAYOR CHRIS GOERTZEN, having been sworn, presents
8 as follows:

9 THE CHAIRMAN: Go ahead, sir.

10 MR. GOERTZEN: Thank you. Well, I
11 have an uncle, who is a preacher in my church, and
12 whenever I saw him up at the pulpit, I always knew
13 that this is going to be a short service. And so
14 I take after him a little bit.

15 THE CHAIRMAN: Well, that's rare in
16 politics.

17 MR. GOERTZEN: You're right.

18 THE CHAIRMAN: And a couple of us up
19 here have had some past experiences in local
20 politics.

21 MR. GOERTZEN: I will have some time
22 to learn.

23 In the last six years, Steinbach and
24 the southeast region have had tremendous growth.
25 The growth in the region is, by far, the highest

1 in Manitoba. And the growth in the City of
2 Steinbach has placed it as one of the fastest
3 growing urban centres in Canada. The change in
4 population between the 2001 census and the census
5 taken in May 2006 showed a staggering 19.9 percent
6 increase in population, which translates into
7 1,839 additional residents. The population in our
8 neighbouring municipalities also showed a
9 remarkable growth, with Hanover increasing its
10 population by over 1,000 people, while the R.M. of
11 La Broquerie increased by 765 residents. This
12 astounding number, like before, translates into a
13 26.4 percent increase in population.

14 The economy is strong in the Steinbach
15 region. The diversity of our regional economy is
16 what makes it strong. Our economy is based on
17 three main pillars that have sustained our
18 impressive growth numbers. They are
19 manufacturing, the service industry and
20 agriculture. All three of these pillars of our
21 economy are diversified, thus creating an even
22 stronger and more resilient economy. When one or
23 more segments are on the decline, we have been
24 fortunate to have others that seem to be on the
25 upward trend.

1 The Hog Industry is a large part of
2 the agricultural base in the southeast region.
3 The effect of the industry is much more
4 far-reaching than boar barns, farrowing barns and
5 finishing barns. It goes much farther than the
6 hundreds upon hundreds of people that find well
7 paying jobs in these places of employment. The
8 reach is much farther than the high yielding crops
9 that many area farmers reap because they are able
10 to effectively manage their fields with nutrients
11 from the industry.

12 The Hog Industry has had, and we hope
13 will continue to have, a positive effect on the
14 construction service industry in our region. We
15 have seen the benefits spread to the construction
16 workers and companies who are able to secure the
17 contracts for the hog housing facilities, as well
18 as many other maintenance facilities. We have
19 seen the lumberyards and farm equipment dealers
20 realize large increases in their sales. All of
21 these positive effects enable these trade
22 companies to employ more people, thus growing our
23 regional economy.

24 The transportation industry also has
25 seen tremendous growth in our region. Virtually

1 every hog that is produced in our region must be
2 transported out of the eastern half of the
3 province to get processed. This has increased the
4 demand for truck drivers and workers to maintain
5 and clean the many transport vehicles.

6 The hog industry also provides many
7 management and clerical job opportunities for the
8 region's population. Hytek, Puratone, Landmark
9 Feeds and Pro Vista Agriculture all have their
10 corporate or head offices in the offices in the
11 southeast. The industry does not only provide a
12 direct "hands-on" careers for our population, but
13 gives the opportunity for people to be involved in
14 the administration of the industry. This
15 diversity is welcome here in the southeast because
16 we know that this is what makes our economy
17 strong.

18 The City of Steinbach is concerned
19 about a clean and sustainable environment. This
20 is why, in 2004, we joined the Seine-Rat River
21 Conservation District. Through this organization,
22 we have seen great cooperation between the member
23 municipalities and industries in the southeast.

24 The hog industry is one of those
25 industries. We have seen consistent participation

1 and encouragement to improve programs and
2 practices that will prove to be sustainable for
3 the environment. The hog industry leaders that we
4 have in the southeast have been a great example of
5 good corporate citizens. They know that if the
6 environment is sustained and improved, their
7 industry will prosper, and their actions have
8 consistently proven this.

9 The economy of the Southeastern
10 Manitoba has been greatly improved by the hog
11 industry. These effects have been far-reaching,
12 creating an environment that has produced a large
13 influx of immigrants from outside of our region,
14 outside of Manitoba, and outside of Canada.
15 Steinbach has seen a new ballooning Filipino
16 community, many of which are finding good
17 employment in the hog industry. The trucking,
18 which is also benefiting from the industry, is
19 finding new employees in the United Kingdom who
20 are, in turn, making Steinbach and the region
21 their home.

22 We have been fortunate in the
23 Steinbach region. The agricultural pillar of our
24 economy is strong. We look forward to a continued
25 and sustainable growth of the hog industry and the

1 many positive economic aspects it will bring to
2 our region.

3 Thank you.

4 THE CHAIRMAN: Thank you. And I
5 suspect that you are the envy of many other mayors
6 around the province.

7 MR. GOERTZEN: It is a good place to
8 be the mayor.

9 THE CHAIRMAN: With a growing economy
10 and a growing population. Edwin, do you have any
11 questions?

12 MR. YEE: I guess just one question,
13 Mayor Goertzen. In terms of development, do you
14 have a development plan in combination with your
15 adjacent municipalities, like a district or a
16 regional development plan?

17 MR. GOERTZEN: No. What we do is we
18 all work individually. But, of course, especially
19 with the new councils that we have, we are meeting
20 on a regular basis to discuss any issues that may
21 come up.

22 MR. YEE: Thank you.

23 THE CHAIRMAN: Wayne?

24 MR. MOTHERAL: I just want to ask one
25 question. It's Mayor Goertzen. Mind you, to say

1 Mayor Goertzen, I am so used to saying mayor
2 Magnusson for the last number of years. It seems
3 strange, but congratulations.

4 Now, in the City of Steinbach, are
5 there any residents -- this is maybe putting you
6 on the spot -- are there any residents who
7 complain about the odour at times? Because,
8 obviously, there will be odour in towns because
9 there is in the R.M., et cetera. But are there
10 complaints or do you think there are people who
11 are reluctant to complain because it is the
12 backbone of their area?

13 MR. GOERTZEN: Well, first of all, I
14 don't -- very seldom do we find that there is an
15 issue in the city. The issue is -- the issue is,
16 if anything, our own lagoon, which is north of us.
17 So, really, we hear very few complaints.

18 MR. MOTHERAL: Okay. I will be asking
19 the same question this evening as the R.M. comes
20 up.

21 MR. GOERTZEN: Yes.

22 MR. MOTHERAL: Because it's
23 interesting to note that that's the reason why we
24 have this one person that you can contact in our
25 Environment Commission if anybody is reluctant to

1 come up and say something, they can phone in. And
2 no doubt there are people that don't want to
3 squeal or don't want to report on their neighbours
4 and stuff like that.

5 MR. GOERTZEN: When that smell does
6 come about, you often hear the comment: It smells
7 like money.

8 MR. MOTHERAL: Yes, I know, and I've
9 heard the same thing. I was in a community in
10 Ontario, and everybody just took it. They say:
11 That's the way it is, that's the way we operate.
12 Thank you.

13 THE CHAIRMAN: Are you able -- and I
14 asked this question of Mr. Schinkel earlier. Are
15 you able to give an idea of how much of the growth
16 in your community is from manufacturing and
17 services and agriculture, the three pillars that
18 you noted?

19 MR. GOERTZEN: Well, it's diverse.
20 And so, in the end, I could make up some number
21 numbers. And I could make them up now or earlier
22 on. But it is very hard to tell what it is and
23 where that level is, but it is certainly
24 significant. Anecdotally, you know that it is
25 significant. And, in reality, we don't have those

1 hard numbers because they are very hard to come
2 by.

3 THE CHAIRMAN: Anecdotally, you know
4 it is significant in each area or in the
5 agriculture area?

6 MR. GOERTZEN: Anecdotally, you know
7 that agriculture, and specifically the hog
8 industry, plays a huge component of the -- of the
9 success that we have seen here in the southeast in
10 our community.

11 THE CHAIRMAN: I mean, I can see
12 driving through your community on the numbers of
13 occasions we have been out here in the last few
14 months, that this hearing and other hearings that
15 we held in this hall, I can see just the new
16 service development. I mean, there is that one
17 corner where there is about 16 huge grocery stores
18 going up.

19 MR. GOERTZEN: Wait a year.

20 THE CHAIRMAN: Has the manufacturing
21 industry grown significantly? I mean, some of it
22 is well established?

23 MR. GOERTZEN: They have continued to
24 grow as well. You see Loewen, as well as Biovail
25 and a lot of smaller companies, as well, continue

1 to grow. Some of the smaller ones specifically
2 are quite connected to the hog industry, as well,
3 such as WS Welding, and so on, who are
4 manufacturing things for them.

5 THE CHAIRMAN: Certainly.

6 MR. MOTHERAL: Does Steinbach have a
7 real sustainable water supply?

8 MR. GOERTZEN: Yes. We have, I
9 believe, it's three or maybe four wells right now.
10 And they are drilled wells. And they are from the
11 large aquifer that the southeast has.

12 MR. MOTHERAL: Could you see in the
13 future Steinbach being able to process hogs?

14 MR. GOERTZEN: Never say never. I
15 mean, that's a big question.

16 MR. MOTHERAL: That's a political
17 question. I mean, that's not fair.

18 MR. GOERTZEN: Well, that's,
19 obviously, a huge question. And in the end, that
20 requires a lot of infrastructure. And where there
21 is a will, there's a way.

22 MR. MOTHERAL: That's the reason why I
23 asked the water question first.

24 MR. GOERTZEN: There is -- well, we
25 have an abundant amount of water.

1 THE CHAIRMAN: Well, thank you very
2 much, Mayor Goertzen.

3 Shanyn Silinski. Take care of the
4 formalities. Could you please introduce yourself
5 for the record?

6 MS. SILINSKI: Shanyn Silinski.
7 SHANYN SILINSKI, having been sworn, presents as
8 follows:

9 MS. SILINSKI: And thank you for your
10 time this afternoon, Commission, honoured guests.
11 As the head of the Manitoba Farm Animal Council, I
12 am going to take a few minutes of your time to let
13 you know about our organization and how it ties in
14 with these hearings.

15 The Manitoba Farm Animal Council has
16 been in existence since 1991. And we have been
17 advocating and educating for and to producers and
18 farmers within animal agriculture within this
19 province. Canada has four other provincial Farm
20 Animal Councils; Ontario, Saskatchewan and
21 Alberta, and there is a newly minted National Farm
22 Animal Council. And all of our mandates are the
23 same.

24 The foundation of our council is the
25 agriculture industry. It is their council. This

1 is a short list of some of the things that we do.
2 Three of the live animal exhibits, which answers
3 some of your questions about educating our urban
4 and rural non-farming friends. We have "Thru The
5 Farm Gate" at the Brandon Fair, "Touch The Farm"
6 at the Red River Exhibition. And we coordinate
7 with Ag in the Classroom for the "Amazing Ag
8 Adventure", which allows school children to go
9 through the barn and experience agriculture
10 firsthand.

11 We are supported by commodities within
12 the province in animal agriculture. And as you
13 can see from these photos, everyone gets to touch
14 the farm and gain that connection back to
15 industry, which really is the foundation industry
16 for Western Canada, and it is Manitoba's second
17 largest industry.

18 I remember hearing stories my grandpa
19 would tell me, when he was growing up on the farm
20 as a young man farming with horses. And this was
21 long before the days of environmentalism or
22 anything else. And he said: It is all about
23 stewardship. If you take care of your land, it
24 takes care of your animals, which takes care of
25 you.

1 And in those days, you really had to
2 be careful how you were a steward of your
3 resources, because it was your family's true bread
4 and butter. That was the groceries on your table
5 is what you raised. And it was very important to
6 take care of the land, so it could take care of
7 you. And that's the same today. Farmers have to
8 take care of their land, just as they have to take
9 care of their livestock. And it becomes not just
10 a matter of stewardship ending with the animal,
11 but it also starts and begins with the land.

12 And there are some pictures of the
13 "Amazing AG Adventure".

14 The Manitoba Farm Animal Council
15 coordinates a number of training sessions and
16 information sessions throughout the year,
17 including one in this hall last summer dealing
18 with the Anthrax breakout. That was a very
19 critical workshop for us because we were able to
20 put it together within ten days of the outbreak,
21 give producers, rural municipalities and the
22 public information that they needed to deal with
23 the outbreak, prevent future outbreaks and explain
24 what exactly an Anthrax outbreak can do, not only
25 to producers and their livestock, but the dangers

1 it posed to people who were not careful. There
2 are some pictures of the Anthrax workshop.

3 We also co-ordinated the Livestock
4 Emergency Response Course, which teaches first
5 responders, producers and the RCMP how to handle
6 livestock in an emergency. And this goes directly
7 to the welfare of the animals and the safety of
8 the people, but it also becomes a stewardship
9 issue because you want to make sure that you are
10 taking care of the animals from the start to the
11 finish.

12 Experience has taught us that being
13 proactive is superior to being reactive. Anybody
14 that knows me, knows that being proactive is much
15 better than my first knee-jerk reaction, and
16 that's the one that gets me into trouble. But we
17 also know that reactive can be a very positive
18 thing if it is well thought out and considered:
19 How we are going to react to things?

20 Having been raised on a farm, a sixth
21 generation western Canadian, living in the country
22 and in a rural lifestyle, and choosing farming as
23 a way of life, I have to say farmers are not
24 always the best crowd at standing up and saying:
25 We do a good job. Farmers, however, are very good

1 at finding ways of doing a better job. They are
2 always looking at research. They are always
3 trying find a better way to do things for their
4 for their livestock, for their land and for their
5 livelihood.

6 And the Manitoba Farm Animal Council
7 plays a role in that in that because we encourage
8 research, dialogue. And we also produce materials
9 that educate and inform producers how to do a
10 better job. And when they are doing a better job,
11 we tell other people. So we work with Glenlea.
12 We work with the University of Manitoba. The Farm
13 Animal Council is proactive, responsive, growing
14 in a positive organization that supports the
15 animal agriculture industry in Manitoba and across
16 the country.

17 There is strength in numbers. And
18 there is a powerful vision and a powerful voice
19 when agriculture stands up and speaks with one
20 voice and says, "we are doing a good job." Let us
21 continue doing a good job. We have a solid
22 foundation. We have the prairies that we have
23 settled because of farming. And we are going to
24 continue into the future feeding our country and
25 feeding those countries that depend on our bread

1 basket.

2 We are making sure that our voice is
3 heard for animal agriculture. And we are making
4 sure that animal agriculture is the moving force
5 to set the agenda for our industry. We want to
6 make sure that those experts who know animal
7 agriculture are the ones that are paving the way
8 to the future, so that our united voice and our
9 proactive approach and our reactive responses are
10 the ones that will meet the needs of our children
11 and grandchildren as they honour the legacy of our
12 grandparents and great-grandparents.

13 I think Dwight Eisenhower put it in a
14 nutshell very neatly when he said:

15 "Farming looks mighty easy when your
16 plow is a pencil and you're a thousand
17 miles from the corn field."

18 You can insert whatever agriculture industry you
19 want for "corn field", and it still says the same
20 thing.

21 And I would like to close with a
22 little Garfield humour from his dad.

23 But the main thing that I want you to
24 take away from this little clip, and the moments
25 we have had here today, is that the reason we are

1 here is because, "these things matter to farmers".
2 And when farmers take the time to stand up and
3 say, "it matters", then that's when people need to
4 listen because usually farmers are busy doing
5 their business of raising food and taking care of
6 their land and taking care of their animals and
7 keeping the store shelves full.

8 Thank you for your time.

9 THE CHAIRMAN: Thank you,
10 Ms. Silinski. Can you tell me a little bit more
11 about your organization, and just where you are
12 based?

13 MS. SILINSKI: I am based out of my
14 home office in La Broquerie on our farm. And we
15 do use our commodity offices in the city for
16 meetings, and those types of things, when we need
17 to be putting together presentations or workshops.
18 And we do try to spread things over the province
19 so that we do have a wide range of things for our
20 producers.

21 THE CHAIRMAN: How are you funded?

22 MS. SILINSKI: We are funded through
23 Farm Gate, a percentage of the Farm Gate receipts,
24 through the commodities that have chosen to be our
25 members.

1 THE CHAIRMAN: And what are those
2 commodities?

3 MS. SILINSKI: Pork Council, Dairy
4 Farmers of Manitoba, Manitoba Cattle Producers,
5 Manitoba Sheep, Manitoba Equine Ranchers, and the
6 Chicken Producers.

7 THE CHAIRMAN: So pretty well all of
8 the animal farmers?

9 MS. SILINSKI: Yes. And that
10 demographic is pretty much the same across the
11 board for our sister organizations as well.

12 THE CHAIRMAN: You mean the ones in
13 other provinces?

14 MS. SILINSKI: Yes.

15 THE CHAIRMAN: Are there full-time
16 employees?

17 MS. SILINSKI: I am it.

18 THE CHAIRMAN: You are it?

19 MS. SILINSKI: I am it.

20 THE CHAIRMAN: How do you do all of
21 these things or do you have a good volunteer base?

22 MS. SILINSKI: I have a really great
23 volunteer base through our commodities. And I do
24 have a really great volunteer through my husband.
25 He is my unpaid staff with benefits. But we do

1 have a lot of resources. The commodities are very
2 good at sharing resources. The university is
3 another resource that we share information back
4 and forth with. And a lot of it really is the
5 sharing of information, and technology helps us do
6 that.

7 THE CHAIRMAN: And when you put
8 together these demonstrations at the Brandon Fair
9 and the Red River Exhibition, who does that?

10 MS. SILINSKI: The commodities send
11 volunteers and staff to do that. And, in fact,
12 oversees all that have to ensure that, of course,
13 animal welfare is taken care of. And we answer
14 any inquiries from the public about the animals.

15 THE CHAIRMAN: Do you get -- the
16 Brandon Fair is very clearly an agricultural fair,
17 so I'm sure you get a lot of attention there. But
18 do you get much attention at the Red River
19 Exhibition? I mean, it has always been an
20 agricultural fair, but most people go there for
21 the loopy rides, or whatever.

22 MS. SILINSKI: I am pleased to say
23 that we have a lot of good response at the "Touch
24 The Farm" at Winnipeg. And a lot of them are from
25 the city. And many, many of them are return

1 visitors. We have had a lot of generational
2 stories where the grandparents farmed. Their kids
3 are in the city. And now they are bringing their
4 grandchildren so that they can have that
5 connection back to agriculture.

6 And we have had some people that have
7 lived in the city their whole life and have never
8 even seen a live farm animal in person, so to
9 speak. And one lady identifies herself as being
10 in her sixties. And she had never touched a baby
11 farm animal. She didn't know how large a pig got.
12 She didn't know the difference between a dairy cow
13 and a beef cow until she actually saw them. And
14 she got to hold a baby chick, which was something
15 she had never in her life experienced. And I
16 think she spent two hours in the barn because she
17 just had such a great time. And she was going to
18 bring her family and her grandchildren back for
19 the next year.

20 So it is really a good opportunity to
21 share with our urban neighbours what our rural
22 people are doing. But there is also that second
23 disconnect, where we have rural non-farming people
24 living next door to rural farming people. And
25 they don't understand why the tractor is out at

1 the crack of dawn, and why you are hauling silage,
2 and why you have to move manure, and why they call
3 it weaning and why they are milking. If we don't
4 teach them, they can't learn.

5 And the Manitoba Farm Animal Council
6 doesn't want to change minds, but we want to have
7 people make informed decisions. The more
8 information you have, the better decisions you
9 will make because you have a more rounded
10 perspective of what is going on around you,
11 whether it be an issue, something historical or a
12 current event.

13 THE CHAIRMAN: Thank you. Wayne?

14 MR. MOTHERAL: I don't think so. I
15 don't think so, no. There are some things that I
16 wonder -- and it's great for kids to touch animals
17 and that, but do they realize that they could be
18 my next meal?

19 MS. SILINSKI: We make sure that
20 that's clear. Farm animals are not pets. You
21 have to name show cattle because you have to call
22 them something. And some cows get called other
23 things that we can't repeat in polite company, but
24 that's the nature of livestock. And we make it
25 very clear that these are not pets, that they are

1 not there to be shown as pets. These animals are
2 producing the food that these people see in the
3 grocery store everyday. And they need to know
4 that there is more cow to that carton of milk than
5 just the cartoon cow on the side of the carton,
6 for sure.

7 MR. MOTHERAL: And maybe that's a
8 point where we can say that they are getting food,
9 but that it's really cheap food. Maybe we can get
10 that reaction somehow.

11 MR. YEE: Yes. Ms. Silinski, can you
12 explain a bit more about the Livestock Emergency
13 Response course in terms of the content and what
14 it addresses?

15 MS. SILINSKI: Certainly. Jennifer
16 Woods is the instructor for that course. And she
17 took her training from Dr. Temple Grandin, who is
18 a phenomenal leader in animal husbandry and farm
19 animal welfare.

20 And what the course covers is how to
21 handle livestock in an emergency. And this is
22 especially true for emergency responders and
23 police because most of them aren't lucky enough to
24 come from the farm. If you have a car accident
25 with people, that's one set of stressors. And I

1 was in the fire service for seven years.

2 If you add a liner load or a trailer
3 load of animals to that, then you have
4 exponentially increased the chanced for additional
5 injury and death, danger, and the possibility that
6 things are going to get completely out of hand.
7 So what we try to do in that course is to teach
8 people how to handle animals trapped in a trailer,
9 how to get them out, how to euthanize them, how to
10 transport them, how to do crowd control.

11 And we really want to make sure that
12 the RCMP, when they get a call about a liner
13 rollover, that their dispatcher is asking the
14 right questions: How many animals? Are they
15 still in the trailer? What species size are they?
16 Does anybody know what size they are? If you have
17 bison loose, you are not going to see them. They
18 are going to meet you halfway back to the fire
19 hall because they pick a direction and they go.
20 Cattle and birds and horses like to stay close to
21 their companions, and they will stay in a herd.
22 If you have one animal wandering all alone by
23 itself, all it is trying to do is get back to
24 animals of its own kind. And there is the danger
25 of one lone animal that the responders may not be

1 aware of, and so we try to increase that knowledge
2 base.

3 Teach them how to cut into a trailer,
4 to never turn over a loaded trailer. Aluminium
5 trailers, if you try to put pressure on one side
6 and you try to tip it up, it tends to fall out,
7 which adds to the scene. And, of course, the
8 biggest thing with the Emergency Livestock
9 Response Course is to never endanger human life to
10 save an animal's life. But we want to be aware,
11 because that's the product of someone's farm and
12 livelihood, to make sure that most of them can
13 finish their journey, and those that can't are
14 humanely destroyed. Because in Manitoba, and in
15 Canada, it is against the law to transport animals
16 for euthanizing them. It has to be on site. And
17 so we have to train our RCMP and our animal
18 protection officers to do that job well.

19 MR. YEE: Thank you.

20 THE CHAIRMAN: Thank you very much,
21 Ms. Silinski.

22 MS. SILINSKI: Thank you for your
23 time.

24 THE CHAIRMAN: Oh, you are welcome.
25 And that brings us, well, just about to that time

1 for a coffee break. But also to the end of the
2 list of people who had previously indicated that
3 they wanted to make presentations. We will take a
4 15-minute break. And if, during that time, or in
5 the last hour or two, any of you have decided you
6 would like to make a presentation, please let us
7 know that during the break and we will hear you
8 after you the break. Thank you.

9 (PROCEEDINGS RECESSED AT 3:18 P.M.
10 AND RECONVENED AT 7:00 P.M.)

11 THE CHAIRMAN: Good evening.

12 Could I ask you to take your seats? I
13 would like to reconvene. We have five
14 presentations that have registered for this
15 evening. The first one is the Manitoba Federation
16 of Labour Occupational Health Centre. Could you
17 please come up here and take seats at this front
18 table? Would you please introduce yourselves for
19 the record?

20 MS. LOVERIDGE: My name is Carol
21 Loveridge. I'm the Executive Director of the
22 Manitoba Federation of Labour Occupational Health
23 Centre.

24 MS. LUDWIG: And my name is Diana
25 Ludwig. And I am one of the nurses at the

1 Manitoba Federation of Labour Occupational Health
2 Centre.

3 THE CHAIRMAN: Cathy will now
4 administer the oath.

5 CAROL LOVERIDGE, having been sworn, presents as
6 follows:

7 DIANA LUDWIG, having been sworn, presents as
8 follows:

9 THE CHAIRMAN: Go ahead, please,
10 ladies.

11 MS. LOVERIDGE: Good evening.

12 I would like to thank the Commission
13 for giving us this chance to make this
14 presentation. And our presentation is about
15 workers' health, workers who work in the
16 industrial hog barn industry.

17 Workers in industrial hog barns will
18 most directly, and probably most profoundly, be
19 affected by the environmental impacts of the hog
20 industry. The Environment Act should be a
21 valuable legislative tool to help protect the
22 health of workers.

23 The hog industry needs to be placed
24 within the context of a sustainable development
25 strategy to ensure the long-term health of workers

1 and the affected communities. A comprehensive
2 review of the potential environmental impacts
3 would not be complete without consideration of the
4 occupational health risks related to the industry.
5 The hog industry poses health risks to Manitoba
6 workers that must be addressed.

7 The MFL Occupational Health Centre has
8 established itself as an important community based
9 resource on occupational health and safety for
10 workers and communities in Manitoba. Our Centre
11 has a respected track record of addressing health
12 and safety issues at public hearings and through
13 submitted written documents as part of the public
14 consultative process when legislated changes are
15 being considered.

16 The Occupational Health Centre is
17 grounded in the belief that those people who share
18 common health concerns must play an active role in
19 addressing those concerns. Further, the community
20 working together is better able to promote the
21 health and well-being of its individual members
22 and the community as a whole.

23 And, finally, the OHC believes that
24 the workers should not bear any burden of illness
25 or injury because of their work. We intend to

1 highlight some of the very real and important
2 health considerations of workers in industrial hog
3 barns. The occupational hazards that affect a
4 worker's health also affect the well-being of
5 their family and community.

6 And I am not going to read every part
7 of the paper. I am just going to do the
8 highlights, for those of you who are following
9 along.

10 Respiratory problems. Hog production
11 has undergone rapid transformation from
12 family-owned operations to large scale industrial
13 enterprises. An increasing percentage of pigs are
14 being raised in large industrial hog barns. And
15 size does matter. When something goes wrong in a
16 large hog barn, the potential of risk for
17 occupational and environmental damage is
18 correspondingly large.

19 Large hog barns are complex
20 environments, with a variety of gases and dusts
21 present. And it is well documented in the
22 international scientific literature that exposure
23 to the air in large hog barns may cause not only
24 short-term but long-term harmful health effects in
25 workers.

1 Thousands of gases, particles and
2 bioaerosol emissions have been documented in
3 industrial hog barns. Industrial hog barns
4 generate dusts, dander and gases released from the
5 breakdown of hog feces and urine that contribute
6 to poor air quality if the ventilation in the
7 building is not adequate. In the summer, hot
8 weather increases the amount of gas released from
9 the manure.

10 Environmental assessments of air
11 quality inside industrial hog barns done during
12 research studies revealed unhealthy concentrations
13 of hydrogen sulfide, ammonia, inhalable
14 particulate matter and endotoxin. And it is
15 important to keep exposure to all dust and gases
16 as low as possible to minimize health risks to
17 workers.

18 It is best to find out if there is a
19 problem with dusts and gases in the hog barn
20 before health problems develop. An exposure limit
21 is the amount of a hazard that most, but not all
22 workers, can be exposed to without harming their
23 health.

24 Occupational exposure limits have
25 several limitations and should not be solely

1 relied upon to protect the health of workers in
2 hog barns. These limitations include:

3 The lack of appropriate occupational
4 exposure limits for some of the air contaminants,
5 including organic dusts.

6 The inability to adequately account
7 for the health impact of exposure to multiple
8 airborne hazards.

9 The reality that some workers will
10 experience health problems at exposures that are
11 below the exposure limits.

12 Although modern barns appear cleaner,
13 the air inside these barns still carries toxic
14 molecules which are harmful to the workers.

15 Cleaner, modern, industrial hog barns are not less
16 harmful than the older ones. In addition, routine
17 spot check air analysis are not sufficient to
18 evaluate the potential toxic effect of the barn
19 air.

20 Working in barns is often a full-time
21 occupation. The higher the levels of harmful dust
22 and gases, and the more time that workers spend in
23 the barn, then the greater the chance that workers
24 will develop health problems.

25 And there have been more than 70

1 papers published on the adverse health effects on
2 workers within the industrial hog barns in Canada,
3 Unites States, most European countries, and
4 Australia.

5 A small proportion of workers
6 experience acute respiratory symptoms early in
7 their work history sufficiently severe to cause
8 immediate withdrawal from the workplace. To
9 better understand the effects of exposure to air
10 within industrial hog barns, many researchers have
11 exposed healthy volunteers for several hours only
12 once to barn air. Even a single exposure induces
13 fever, malaise, drowsiness and thickening of the
14 membranes of the nose and activates an
15 inflammatory response in the lungs.

16 The collective body of research
17 clearly indicates that at least 25 of workers in
18 industrial hog barns have respiratory diseases,
19 including bronchitis, mucous membrane irritation,
20 asthma-like syndrome, and acute respiratory
21 distress syndrome. And notably, organic dust
22 toxic syndrome, related to higher concentrations
23 of bioaerosol in industrial barns, occurs
24 episodically in more than 30 percent of the
25 workers.

1 Several studies indicate that workers
2 in industrial hog barns have significantly more
3 sick days than controls. Workers in industrial
4 hog barns have a higher incidence of impaired
5 airflow and lung inflammation.

6 Epidemiological studies of workers in
7 industrial hog barns have documented increases in
8 morning phlegm, coughing, scratchy throat, burning
9 eyes, wheezing, shortness of breath, and chronic
10 bronchitis, compared to that that do not work in
11 industrial hog barns. The severity of respiratory
12 symptoms increases during the winter due to
13 reduced ventilation.

14 Several large scale studies indicate
15 endotoxins, which are toxins that are released
16 when organisms die. Several large scale studies
17 indicate that endotoxin exposure for workers in
18 industrial hog barns have been associated with
19 both respiratory and systemic, as well as changes
20 in lung function. There is considerable evidence
21 that endotoxin exposure may both exacerbate
22 pre-existing asthma and induce new asthma. Recent
23 studies from Canada suggest that women are more
24 prone than men to develop asthma from working in
25 industrial hog barns.

1 Dusts contribute substantially to the
2 extent and severity of respiratory symptoms for
3 workers in industrial hog barns. Feed particles
4 and fecal matter are the most prevalent components
5 of dusts in industrial hog barns. Other
6 components include dander, moulds, insect parts,
7 and mineral ash. Asthma and hypersensitivity,
8 pneumonitis are associated with exposure to
9 organic dusts.

10 In livestock confinement environments,
11 it is important to be aware of the risks
12 associated with the combinations of the various
13 gases and dusts. The combination of the variety
14 of gases in the confined space may increase the
15 negative health of any one type of agent or gas.
16 For example, dust particles may absorb ammonia.
17 Ammonia is water soluble and is usually absorbed
18 by mucous in the upper respiratory tracts when
19 inhaled. This process protects the lungs from the
20 effects of exposure to moderate ammonia. Dust
21 particles, however, and the ammonia absorbed in
22 them, are delivered more deeply into the pulmonary
23 system. This scenario allows ammonia to have an
24 impact on the more sensitive deeper areas of the
25 pulmonary system where ammonia would not typically

1 reach.

2 Exposure to dust aerosols during the
3 cleaning inside hog barns can induce an acute
4 inflammatory reaction in the upper airways of
5 workers when using a high pressure cleaner for
6 several hours. Also, the use of a mask reduces,
7 but does not eliminate, this inflammatory
8 response.

9 In colder climates, heating may be
10 achieved with propane or other fossil fuels in
11 large hog barns. High dust levels make it
12 difficult to keep heaters and equipment working
13 effectively. The amount of harmful gas in the air
14 may be higher in the winter if less fresh air is
15 coming into the building. And the heaters, and
16 other equipment, can malfunction, and/or
17 inadequate ventilation may result in a build up of
18 carbon monoxide, thus causing carbon monoxide
19 poisoning.

20 Some community environmental air
21 quality assessments have shown concentrations of
22 hydrogen sulfide and ammonia that exceed Agency
23 for Toxic Substances and Disease Registry
24 recommendations. There is a growing body of
25 evidence documenting excessive respiratory

1 symptoms in neighbours adjacent to industrial hog
2 barns. The pattern of their symptoms is similar
3 to those of the workers working in the barns.
4 Increased prevalence of childhood asthma on farms
5 with increasing numbers of hogs has also been
6 documented.

7 The Clean Environment Commission needs
8 to ensure that owners of industrial hog barns
9 comply with Workplace Safety and Health
10 legislation. Employers are responsible for the
11 safety and health of all the workers. Employers
12 should keep exposure to all dust and gases as low
13 as possible.

14 Owners of industrial hog barns should
15 include worker representatives in the process of
16 identifying job risks and exploring ways to
17 minimize workplace health and safety risks. A
18 critical first step is to identify the source of
19 the problem.

20 This should be done with the health
21 and safety committee or worker representative.
22 Workers often best understand the hazards of their
23 particular jobs. Employers need to provide all
24 workers with easy to understand information and
25 training about health hazards in the barn.

1 Employers should involve their workers to ensure
2 that procedures and equipment are appropriate and
3 convenient.

4 Owners of hog barns should:

5 Control exposure to hazards at the
6 source of the hazards by minimizing or eliminating
7 the air contamination by using adequate
8 ventilation systems.

9 Make sure that the mechanical
10 ventilation system has enough capacity to
11 effectively get rid of the harmful gases at all
12 times.

13 Use respirators only, in addition to,
14 but not as a substitute for adequate ventilation
15 to protect the health of workers.

16 Make sure that workers have access to
17 the right type of respirators that fit properly.
18 Instruct workers how to use, clean and maintain
19 the respirators.

20 Install gas detectors and test for
21 harmful gases throughout the day in the barn.

22 Evaluate the health impact of all air
23 contaminants on workers and do not rely solely on
24 occupational exposure limits to determine if the
25 air is safe.

1 Danger can also come quickly!
2 Hydrogen sulfide is an extremely toxic
3 gas formed by the decomposition of animal waste.
4 Workers may be exposed to hydrogen sulfide when
5 they enter the manure storage pit or when the pit
6 is agitated prior to being emptied. This releases
7 large amounts of hydrogen sulfide into the barn.
8 Workers who survive exposure to excessive amounts
9 of hydrogen sulfide may develop adult respiratory
10 distress syndrome.

11 And workers will be in immediate
12 danger if there is not enough oxygen. Some
13 workers and rescuers, without enough ventilation
14 and the right kind of respirators, have become
15 unconscious or died in Manitoba when they entered
16 the manure pit.

17 The CEC needs to ensure that owners of
18 industrial hog barns comply with Workplace Safety
19 and Health legislation. Employers are responsible
20 for the safety and health of all their workers.
21 This includes preventing a dangerous exposure to
22 hydrogen sulfide.

23 Owners of hog barns should:

24 Hire trained professionals to do the
25 most dangerous work, such as emptying lagoons or

1 working inside tanks or deep pits.

2 Post warning signs in all areas at
3 risk. Stand a safe distance outside the tank or
4 building when the manure pit or tank is stirred or
5 emptied.

6 Make sure that the level of gases are
7 safe before workers re-enter the hog the hog barn,
8 lagoon, tank or deep pit.

9 Now we are coming to our
10 recommendations.

11 Hog producers have expanded in
12 Manitoba just as environmental scrutiny and public
13 disfavour begin to stunt hog expansion in some
14 other parts of Canada and globally. We must
15 carefully consider the current and future
16 ecological footprint that will be left by the hog
17 industry in Manitoba.

18 Protecting our workers and our
19 environmental heritage upfront is in the best
20 interests of all Manitobans in the long run. If
21 the hog industry limits itself to only the
22 shortsightedness of the business bottom line, then
23 eventually the costs will catch up in some other
24 way.

25 Later, most of the health, social and

1 economic burdens of occupational and environmental
2 illnesses are more likely to be unjustly carried
3 by the worker, families, communities and the
4 taxpayers, rather than at the source of the
5 problem. And we also need to both protect the
6 health and safety of workers and concurrently
7 embrace and plan for an ethical and sustainable
8 economy.

9 In keeping with the spirit of the
10 precautionary principle that is embedded in both
11 the Provincial Environment Act and the Sustainable
12 Development Act, we should:

13 Ensure that current laws, regulations,
14 policies are enforced to protect workers,
15 families, communities and the environment.

16 Continue with the moratorium on
17 expansion of the hog industry until we know that
18 workers, communities and the environment are
19 protected.

20 Initiate independent research that
21 gathers local knowledge from workers in hog barns,
22 community residents, as well as expertise from
23 occupational, community and environmental
24 specialists based on the Manitoba context.

25 Mandate environmental impact

1 statements for proposed hog barns that includes
2 occupational/environmental health, social justice,
3 and socioeconomic issues.

4 Decisions to issue permits for
5 industrial hog barns should be considered in
6 public meetings and decided by the whole
7 community.

8 And, finally, support the farming of
9 hogs in a way that protects the health of workers
10 and their communities, using sustainable,
11 environmentally sound and ethical practices.

12 Support small scale farming operations. The trend
13 toward large scale livestock operations increases
14 the risk of a number of health problems. By
15 supporting opportunities for smaller scale
16 livestock farms in Manitoba, we can minimize some
17 of the health impacts on workers and the wider
18 community from larger scale operations.

19 Thank you.

20 THE CHAIRMAN: Thank you very much.
21 You included some other things, some journal
22 articles?

23 MS. LOVERIDGE: Yes.

24 THE CHAIRMAN: How much of a problem
25 is it in Manitoba?

1 MS. LUDWIG: I'm not sure. The fact
2 is that our workplace goes into workplaces as
3 invited. And so we have, actually, not been
4 invited to any of the industrial hog barns.
5 However, we have seen workers that have come to
6 visit our doctors with symptoms and health
7 problems.

8 MS. LOVERIDGE: I would also like to
9 add that on our website, we also have the fact
10 sheets that you see there. And in the last six
11 months, we have had 350 hits alone on the website
12 for that are particular fact sheet about dust and
13 gases. So somewhere out there people are
14 perceiving this as a problem. And we have no way
15 of knowing, you know, why they want to look at
16 that. But it is a very significant number, for a
17 province of this size, in just a matter of six
18 months.

19 THE CHAIRMAN: Have there been any
20 complaints or concerns registered with the
21 Occupational Health Branch of the Department of
22 Labour, do you know?

23 MS. LUDWIG: I gave them a call and
24 asked how many industrial hog barns they had been
25 to in the last couple of years. And they said: A

1 few. And I said: What does that mean? And they
2 said: A few. And so I think that the Department
3 of Labour is starting to visit some of the
4 industrial hog plants. But I think the numbers
5 still are very small that have really been seen,
6 from what I gather from that response.

7 THE CHAIRMAN: And I should know this,
8 but I just don't. Are the large hog barns covered
9 by Workers' Compensation? Farms can opt in
10 because it is not compulsory, but how about the
11 large hog barns?

12 MS. LUDWIG: I think the same rules
13 apply as the regular agricultural sector.

14 THE CHAIRMAN: I think that's correct,
15 but I'm not certain. Edwin?

16 MR. YEE: Yes, just a few questions.
17 I guess one for clarification. I think this may
18 be somewhat redundant, as Terry has asked you
19 this. I noticed that you have given us some
20 statistics, and I haven't had a chance to look at
21 it. But, again, do we have any statistics from
22 Manitoba? And I think that your answer was that,
23 no, we don't.

24 MS. LUDWIG: You know, we probably
25 could. I think that the challenge would be for

1 the Workers' Compensation Board to have a way of
2 looking at their data that actually segments that
3 sector, and then we would have a better idea of
4 that. But my understanding is that right now that
5 sector, in general, isn't segued, because we have
6 look at other issues such as the meat packing
7 plants, and so I think that this would not be
8 segued as well.

9 MR. YEE: In terms of your comment on
10 occupational exposure limits have several
11 limitations, can you elaborate a bit on that?
12 What sort of limitations are you referring to in
13 terms of the occupational exposure limits? And, I
14 guess, are you referring to OSHA and NIOSH
15 standards?

16 MS. LUDWIG: Well, for many of the
17 dust and gases in the more finally defined ways,
18 we actually do not have exposure limits. So you
19 can't go measuring something that you don't have
20 the tools to measure with. And that would be true
21 of many of the dusts and gases, including the
22 organic gases, which are so prevalent in the hog
23 barns. So the fact that we don't even have a way
24 to measure is a paramount challenge in and of
25 itself. But even if we do measure something like

1 a hog barn, where there is such a great
2 interaction probably between dusts and gases, and
3 multiple dusts and gases, life being complicated,
4 it is unlikely that even if isolates were able to
5 be measured, that they may or may not be a good
6 indicator of the predisposition or the risk to
7 health problems.

8 MR. YEE: Okay, I think I understand
9 what you are getting at. So in terms of where you
10 have an OSHA or NIOSH limit for hydrogen sulfide
11 or ammonia, what you are saying is that because of
12 the mixture of the other potential contaminants,
13 that there may be cumulative or other effects that
14 can't be addressed?

15 MS. LUDWIG: Right.

16 MR. YEE: And I guess don't have any
17 suggestions as to how we would go about assessing
18 this? We would have to do research into all of
19 this, then?

20 MS. LUDWIG: Well, we have always
21 believed at the Centre that this would be no
22 different than any other manufacturing sector, and
23 that the key is good ventilation.

24 MR. YEE: Right.

25 MS. LUDWIG: And because you will

1 never really know always what goes out into the
2 air, our knowledge is finite. And the
3 possibilities are probably infinite. So the only
4 way of addressing that at the source is to --
5 because it's an air quality issue, is to ensure
6 the best air quality. And the best way to ensure
7 that is to have fresh air coming in.

8 MR. YEE: But for guidelines, would we
9 use existing dust parameters or, say, the hydrogen
10 sulfide or ammonia parameters, as being level we
11 should attain when we are using fresh air and in
12 monitoring the hog barns?

13 MS. LUDWIG: Well, for the things that
14 are known, like hydrogen sulfide and ammonia, and
15 some of the others, yes. But I think that we have
16 to keep in mind that the more we know, the more
17 there is a tendency to want to be cautionary.

18 And I think perhaps the Netherlands
19 lead in this example, in the fact that they were
20 getting concerned about the health effects and
21 decided to develop guidelines that were
22 considerably more stringent than the previous
23 guidelines had been. And to the point where when
24 they said: We're comfortable at this level, and
25 certainly more, that the technology was such that

1 there was no way of ensuring that that, in fact,
2 could be met. So they have given a two-year
3 period to help the technology come into place
4 because they are not, in the long run, comprising
5 on those new levels. They believe that to
6 safeguard the health of the workers that it should
7 not exceed those levels. And perhaps it might
8 even need to be lower than that, but they should
9 not be higher than that, but an interim provision
10 has been made.

11 MR. YEE: And just one last question.
12 And it's another comment in terms of guidelines.
13 You mentioned some community environmental air
14 quality assessments have shown concentrations. So
15 in terms of community air quality, I guess you
16 would use the OMNI air quality guidelines as being
17 the objectives that you would try to attain for
18 that?

19 MS. LUDWIG: Yes.

20 MR. YEE: Thank you.

21 THE CHAIRMAN: Wayne?

22 MR. MOTHERAL: Yes, thank you,
23 Mr. Chairman.

24 I was a little confused here by a
25 couple of these statements that you made where

1 sometimes you say: "Owners of industrial hog
2 barns", and then you will say just plain: "Hog
3 barns". And so can you tell me what is your
4 definition of an industrial hog barn, as compared
5 to anything else?

6 MS. LUDWIG: It's a large scale hog
7 operation. So we didn't necessarily think in
8 terms of numbers. But certainly those approaching
9 a thousand, and certainly more than that, would
10 definitely qualify for a large scale hog barn or
11 for an industrial hog barn. And some people would
12 say even considerably less than that would
13 probably qualify for that, as well. But we did
14 not put a number on it. We just know that the
15 larger the scale, the larger the potential of risk
16 is for all kinds of things, including making it
17 more difficult to protect the health of the
18 workers.

19 MR. MOTHERAL: And in what way do you
20 mean that? I mean, just because it's larger? I
21 mean, quite often we found out that larger
22 operations are more efficient and have more of the
23 safeguarding stuff than a lot of the other
24 operations.

25 MS. LUDWIG: Efficient in what way?

1 MR. MOTHERAL: Just with newer
2 technologies.

3 MS. LUDWIG: Right. It is
4 interesting, and it was a Canadian study, that
5 took a look at the newer, what was considered the
6 cleaner barns. And, in fact, they found that the
7 air quality was not significantly different in the
8 newer, cleaner, more technologically sophisticated
9 hog barns than in the other hog barns. And I
10 think that that really speaks to the density of
11 the animals. I mean, the more animals that you
12 have in a confined area, the more dusts are
13 created. You know, animal dander as being a huge
14 component of that. And the gases that are
15 released from the urine and feces that gather in
16 great concentrations in a very small space. So
17 although there are efficiencies, there are also, I
18 guess, laws of density, you know, in effect, as
19 well. And I just do not know how else to say
20 that.

21 MR. MOTHERAL: And one more thing
22 here, in your recommendations, you know, like:
23 "Owners of hog barns should" and then you've got
24 several recommendations here, and they are very
25 good recommendations. But it would be interesting

1 to know, and it is something that we, as a
2 Commission, are going to have to find out, sooner
3 or later, how many of these suggestions are
4 already being implemented?

5 MS. LUDWIG: Yes.

6 MR. MOTHERAL: And this is important
7 for us. Because certainly safety workers is
8 important to everybody, and also to owners of hog
9 barns. And I would imagine that they are looking
10 into these things all the time.

11 MS. LUDWIG: And, you know, I think
12 that's a very important question. And it would be
13 true, you know, within the hog industry, as it is
14 in any manufacturing centre -- sector. I think
15 you would need to know. But I think what has
16 mostly been of concern to us, in our Centre, is
17 that it is so hard to find out to know. And
18 things may be, in some ways, moving forward. But
19 we don't have a sense of that, because we have
20 know way acquiring a sense that. And until we do,
21 we just want to have a strong for the workers
22 because, right now, we truly don't know, but we
23 suspect from the people or the workers that have
24 come to see us.

25 MR. MOTHERAL: It is just that you can

1 see the challenge that the Commission have to --
2 we need numbers. We need number and statistics.
3 And when you hear statements like: "There was a
4 growing body of evidence documenting this", well,
5 I am hoping that some of that stuff will be in
6 these papers that we have here.

7 MS. LUDWIG: Yes.

8 MR. MOTHERAL: Because it is easy to
9 say that, but it has to be backed up by the
10 numbers.

11 MS. LUDWIG: Yes. And I would really
12 encourage you -- we picked the articles primarily
13 for their overview or their insight into
14 particularly important questions, one or the
15 other. But we also picked a couple of them
16 because of their eclectic representation. There
17 is one article there that was written in February
18 of 2007. And it has representatives from the
19 Netherlands, from I think Sweden.

20 MR. YEE: Denmark and Iowa.

21 MS. LUDWIG: And American and two
22 Canadian centres. And so you are getting, then, a
23 really eclectic world approach to the issues, and
24 some of the thoughts that I would think are very
25 current if it is February 2007. And so we could

1 have lots of articles, but we chose very few. But
2 everything in our report is substantiated in an
3 article somewhere. We did not pick these things
4 out of just nowhere. And so should there be a
5 line anywhere in there that you will need
6 additional information and it is not in the
7 articles, don't hesitate to ask us, because we
8 will find that for you.

9 MR. MOTHERAL: Certainly. And I know
10 that I am going to have a problem. I am kind of a
11 commoner when it comes these things. And I know
12 that I will have to have somebody interpret these
13 for me.

14 MS. LUDWIG: You know what, actually,
15 start reading it. Because we have had folk that
16 don't have a strong background in this area. If
17 they took the time, it was a readable. Those
18 documents were readable. And we chose them for
19 that reason, not to intimidate or to have people
20 back away from the issue. But, rather, to
21 stimulate thoughts and to get engaged in the
22 issues.

23 MR. MOTHERAL: Oh, I will certainly
24 get to understand it. We do have some people that
25 will be able to interpret it for me, so thank you

1 very much.

2 THE CHAIRMAN: Thank you very much for
3 coming out this evening, and thank you for this
4 presentation.

5 Mike Maendel. Oh, no, he's not here
6 yet.

7 Stan Toews. Please state your full
8 name for the record, Mr. Toews?

9 MR. TOEWS: Stan Toews.

10 STAN TOEWS, having been sworn, presents as
11 follows:

12 THE CHAIRMAN: Go ahead, sir.

13 MR. TOEWS: I own a third generation
14 mixed farm and operate it with my son. Our farm
15 has always had livestock on it. In recent years,
16 the number of livestock has increased. We grow
17 annual crops on 1,100 acres. We also raise feeder
18 pigs. We market around 5,500 a year. We buy
19 weanlings at 50 pounds, and we market them to
20 about 275.

21 Our manure is stored in an earthen
22 lagoon and it is straw covered every year to
23 minimize the odour. Our lagoon is environmentally
24 approved and was licensed in 1997. Our manure is
25 injected every fall. Our soil and our manure is

1 tested for nutrients.

2 I have soil tests to show the
3 phosphorous levels, as well as the nitrogen
4 levels. They are in your packet after the first
5 page. I have picked a field that was next to the
6 barn. I have included tests from 1995, 2004, and
7 2006. We soil test every year, but we don't
8 necessarily apply manure every year to the same
9 field. We increased our hog production in 1997.
10 And even with that, there seems to be no
11 noticeable difference in the phosphorous levels.
12 And the field closest to the barn is field number
13 4. And on the 1995 soil test, those are fields
14 numbered 7 and 8. The numbers were changed later
15 to accommodate -- to make larger fields to
16 accommodate the larger equipment.

17 I also have an agreement with a
18 neighbour, who applies manure to my land. Again,
19 I have included the soil test.

20 This field is number 10. The field is
21 tested every year, as well as the manure. And,
22 again, I have included 1995, 2004 and 2006. You
23 should make a note here that, prior to 1996, this
24 field never had received any manure. And that was
25 the first year the manure was applied. Since

1 1996, the field has gotten manure every year.
2 That's 11 consecutive years. Again, the nutrient
3 levels are up for '06 and down for '04, but still
4 remain in the low end of the scale. In '06, we had
5 26 parts of phosphorous per million. In '04 we
6 were at 12 parts. And in 1995, before manure, we
7 were at 19 parts.

8 THE CHAIRMAN: Is that field number
9 10?

10 MR. TOEWS: That's in field number
11 10.

12 THE CHAIRMAN: Perhaps just -- I mean,
13 this is of interest so, perhaps, if you could just
14 point out where these numbers are?

15 MR. TOEWS: Oh, right on top
16 underneath where it says "soil test," it says
17 "field" and then there is a number.

18 THE CHAIRMAN: Yes.

19 MR. TOEWS: Did you find it?

20 THE CHAIRMAN: Yes.

21 MR. TOEWS: And then I also included
22 field number 11, which gets no manure, just to
23 show the nutrient levels, that they are they are
24 comparable manure fields. Our fields that don't
25 get manure, we apply commercial fertilizer, as per

1 soil tests, to maximize our yields. So, in my
2 opinion, it doesn't really matter if you use
3 manure or fertilizer. If it is applied properly,
4 your crops will use it there will be no
5 carry-over.

6 Thank you.

7 THE CHAIRMAN: I'm still trying to
8 figure out these soil tests. Sure, go ahead,
9 please, Wayne.

10 MR. MOTHERAL: You are saying that,
11 obviously, you soil test. Do you test your manure
12 also?

13 MR. TOEWS: Yes.

14 MR. MOTHERAL: Yes, okay. And what
15 crops do you grow? How are you using up this
16 phosphate?

17 MR. TOEWS: Well, we grow wheat,
18 oats, barley, canola and soybeans.

19 MR. MOTHERAL: Okay. They are not
20 really phytase users. You've never had to use,
21 like, sunflowers, or something like that?

22 MR. TOEWS: No. And no alfalfa.

23 MR. MOTHERAL: Okay.

24 MR. TOEWS: Just annual crops.

25 MR. MOTHERAL: You have been

1 fortunate.

2 MR. TOEWS: Pardon me?

3 MR. MOTHERAL: Well, you have been
4 fortunate. I have been in some areas that are
5 really building up pretty high in phosphorous, in
6 some areas.

7 MR. YEE: Mr. Toews, you indicated in
8 your presentation that your manure is injected.
9 And I noticed it says broadcast or band starter in
10 the soil test reports. Does that refer to the
11 method of application?

12 MR. TOEWS: No. That is just
13 referring to the fact that we soil test before we
14 apply any nutrients. And the laboratory is just
15 saying that something they call for should include
16 this number of pounds of nutrients per acre, if
17 you do it broadcast. If you band it in a narrow
18 band, then it is a different rate. They usually
19 refer to the banded part as the potassium, which
20 is your potash.

21 MR. YEE: Right. So these numbers are
22 really, in terms of what the nutrient requirement
23 is for that particular crop, versus your analysis
24 on the other side of the amount of nutrients
25 within the soil?

1 MR. TOEWS: Yes. On the left-hand
2 side, that's the nutrients in the soil.

3 MR. YEE: Right.

4 MR. TOEWS: And the first crop
5 choice, second crop choice, that's for those crops
6 is what they recommend to apply.

7 MR. YEE: Thank you.

8 THE CHAIRMAN: Is that in addition
9 to --

10 MR. TOEWS: No. The manure would
11 make up those nutrients.

12 THE CHAIRMAN: Oh, okay. And so the
13 26 parts per million, for example, on the field
14 10.

15 MR. TOEWS: Right.

16 THE CHAIRMAN: In 2006, that's the
17 residual phosphorous --

18 MR. TOEWS: The residual, yes.

19 THE CHAIRMAN: -- in the soil?

20 MR. TOEWS: Yes.

21 THE CHAIRMAN: So if you are going to
22 grow canola, they are suggesting that you put
23 another 45 pounds per acre?

24 MR. TOEWS: That is right. And
25 that's of the actual product. And then that would

1 work out to -- on 1,155, that's about 100 pounds
2 per acre.

3 THE CHAIRMAN: Any other questions,
4 Wayne?

5 MR. MOTHERAL: Since the new
6 phosphorous regulations, have you noticed any
7 change that you have to do with -- well,
8 obviously, not because your phosphate levels are
9 low, so you don't really have to worry too much
10 about that; is that right?

11 MR. TOEWS: Well, that's right. So
12 that's why I picked 1995, which is prior to us
13 putting manure on. And since then, we have been
14 applying manure and I don't see no rise in the
15 levels.

16 MR. MOTHERAL: Would you say that's
17 general in the area?

18 MR. TOEWS: I think that's general in
19 the area where I live in because we come from
20 heavy clay soils.

21 MR. MOTHERAL: Well, it is just that
22 when the new regulations came out, our panel, of
23 course, certainly seemed targeted for that because
24 of the -- your concentration of the number of --
25 well, the concentration --

1 MR. TOEWS: Right.

2 MR. MOTHERAL: -- of hog barns or
3 Intensive Livestock Operations, ILOs. And I am
4 just assuming that everybody would like to be in
5 the situation that you are.

6 MR. TOEWS: Right. No, there are
7 some farmers that have fields with higher levels,
8 definitely.

9 MR. MOTHERAL: And that is certainly
10 going to affect the way that they apply
11 fertilizers?

12 MR. TOEWS: Right.

13 THE CHAIRMAN: Edwin?

14 MR. YEE: Mr. Toews, whereabouts are
15 you located in terms of the spread fields in the
16 R.M. of Hanover?

17 MR. TOEWS: This land is all in the
18 R.M. of Hanover.

19 MR. YEE: Thank you.

20 THE CHAIRMAN: So that's all good clay
21 soil.

22 MR. TOEWS: Right. It's the northern
23 part of Hanover, the heavy Red River gumbo is we
24 call it.

25 MR. MOTHERAL: Do you have any

1 complaints from anybody?

2 MR. TOEWS: No. As to?

3 MR. MOTHERAL: Well, just for, say,
4 odour?

5 MR. TOEWS: From my farm?

6 MR. MOTHERAL: Yes.

7 MR. TOEWS: From my neighbours?

8 MR. MOTHERAL: Yes.

9 MR. TOEWS: No. That's why my ponds
10 have new straw cover every spring. And when we
11 inject the manure, we inject it. And generally
12 within 24 to 48 hours we make the second pass. I
13 didn't write it down here. But that is to make
14 sure that it is well covered.

15 THE CHAIRMAN: Thank you very much.
16 Thank you for coming out, Mr. Toews.

17 MR. TOEWS: Thank you.

18 THE CHAIRMAN: Somebody from the RM of
19 Hanover. Mr. Cavers, is that it?

20 MR. CAVERS: Yes.

21 THE CHAIRMAN: Introduce yourself for
22 the record.

23 MR. CAVERS: My name is Douglas
24 Cavers. I'm the Chief Administrative Officer for
25 the Rural Municipality of Hanover.

1 DOUG CAVERS, having been sworn, presents as
2 follows:

3 THE CHAIRMAN: Go ahead, sir.

4 MR. CAVERS: Okay. Thank you for
5 allowing me to make a presentation on behalf of
6 the municipality of Hanover at this hearing. As
7 was noted, my name is Doug Cavers. And I am the
8 Chief Administrative Officer of the R.M. of
9 Hanover.

10 Just as a bit of background, the Rural
11 Municipality of Hanover is located approximately
12 35 kilometers southeast of Winnipeg. Hanover is
13 bordered on the east by the City of Steinbach and
14 on the west by the Town of Niverville. We have
15 five large urban centres, including the
16 communities of Blumenort, Mitchell, Grunthal,
17 Kleefeld and New Bothwell.

18 The Rural Municipality of Hanover is
19 agricultural municipality. With 115 rural
20 municipalities in the Province of Manitoba,
21 Hanover is definitely the grandfather of livestock
22 production. And I will just note here that this
23 is information from the 2001 census data that
24 Hanover, at that point in time, had 16 percent of
25 Manitoba's hog population, 26 of Manitoba's

1 poultry population, 10 percent of Manitoba's dairy
2 population and 5 percent of Manitoba's beef
3 population. And that's all based on the slaughter
4 numbers.

5 In our 126 year history as a
6 municipality, we have grown in population and
7 production. They support each other. For every
8 1,000 hogs produced, 2.8 jobs are created in
9 Manitoba.

10 Livestock production is a perfect
11 example of sustainability. What some may view as
12 waste, becomes an input to the next step of
13 production. There are outputs from both sides of
14 this equation. The farmers are managers of the
15 production and manure management for their farms.
16 Closing the circle of sustainability reduces
17 farmers input costs. Farmers in Hanover have
18 become very efficient in making this process work
19 properly.

20 I would like to explain what steps the
21 Rural Municipality of Hanover has taken in
22 managing livestock production operation
23 sustainability. Although this hearing is
24 regarding sustainability of hog production in
25 Manitoba, my comments are made on a general basis

1 regarding the way the R.M. of Hanover has dealt
2 with livestock developments. And I would just
3 like to touch on our land use planning,
4 conditional use issuance, geographic information
5 system, or GIS, and the general concerns that this
6 municipality has with the recent changes to the
7 legislation dealing with livestock production
8 operations.

9 The Rural Municipality of Hanover has
10 adopted its new or current development plan in
11 2003. In 2004, the Province Manitoba presented
12 Mr. Garry Haggerty, the Rural Municipality of
13 Hanover, Datalink Computer Technologies, and PFRA,
14 with the 2004 Manitoba Planning Excellence Award
15 for the Hanover Development Plan and Zoning Study.
16 This Development Plan clearly supports agriculture
17 and recognizes that controls must be maintained to
18 minimize conflict between livestock development,
19 residential development and commercial
20 development.

21 There are scientifically proven ways,
22 in dealing with odour, while allowing livestock
23 development in agricultural areas. Hanover's
24 Development Plan allows for livestock development
25 in appropriate areas, while letting Council set

1 conditions and evaluate potential conflicts for
2 each proposal.

3 Council has many items to consider
4 when looking at new and expanding livestock
5 operations or subdivisions involving livestock
6 production operations.

7 Where the Development Plan sets out
8 the general ideas and concepts, the Hanover Zoning
9 bylaw gets into specifics of what is allowed, how
10 large and where.

11 These criteria can provide thresholds
12 and set limits for prohibition when necessary.
13 Processes such as conditional uses and variations
14 may require additional notification to the
15 neighbouring residents.

16 Council's most powerful tool in
17 dealing with livestock operations is the
18 conditional use process. Although Hanover has
19 adopted that the noted items should be considered,
20 many of these items can no longer be taken into
21 consideration by the local council due to recent
22 changes in the Planning Act and other regulations
23 dealing with livestock. Council can no longer
24 deal with issues related to manure management and
25 disposal, type of operation and livestock, land

1 base for spread area, or Livestock Manure and
2 Mortalities Regulations.

3 Hanover Council considers a variety of
4 information dealing with Conditional Use
5 applications. And the use of our Geographic
6 Information System, to monitor growth within the
7 rural municipality, makes the decision-making
8 easier.

9 When we started gathering livestock
10 data in 2000, there were no Provincial or no
11 Federal departments that could advise council on
12 how livestock intense our municipality was.
13 Hanover was criticized for supporting agriculture
14 and livestock development without recognizing the
15 accumulated impact and interaction with
16 residential development in the agricultural areas.
17 This slide shows all Livestock Operations. Not
18 just hog barns, but all Livestock Operations, and
19 their locations throughout the municipality.
20 Please realize that each pink dot only represents
21 a livestock operation, not noting the size of each
22 operation.

23 When council dealt with the areas for
24 growth or restriction, they created zones to
25 identify areas where agricultural development

1 should be allowed, and areas where there is
2 recognized potential for conflict. The green area
3 is an area where growth could occur. The yellow
4 area represents areas of potential conflict. The
5 blue areas -- well, the blue and pink areas
6 represent areas of residential or urban
7 development.

8 MR. MOTHERAL: Just one second. Which
9 one is the green and which one is the yellow area
10 there?

11 MR. CAVERS: Well, the green is -- oh,
12 just grey. Well, do you want to take a look at
13 this?

14 MR. MOTHERAL: I mean, I take it, the
15 green is just at the top?

16 THE CHAIRMAN: We just have varieties
17 of gray.

18 MR. CAVERS: Okay. Well, I will let
19 you take this one. It looks much better on this
20 screen than it does up on that screen. Do you
21 have a pointer? I can point out the areas if you
22 had a laser pointer.

23 MR. MOTHERAL: Well, this is fine.

24 MR. CAVERS: My council has one. This
25 area in the northern part, and this part of the

1 yellow area, are the parts -- or the agricultural
2 areas, these areas were viewed by council at the
3 time as being the most stable areas for livestock
4 development.

5 THE CHAIRMAN: Can you just take this
6 hand mike or wireless mike so it is being
7 recorded?

8 MR. CAVERS: I thought you guys could
9 hear well enough.

10 THE CHAIRMAN: Well, we can all hear
11 you, but the reporter needs to be able to hear you
12 too.

13 MR. MOTHERAL: You have got to have
14 back-up on this.

15 MR. CAVERS: Okay. What I was saying
16 was that the areas in the very north end of the
17 municipality, and the very south end of the
18 municipality, at the time that we were dealing our
19 environment plan, were viewed as being the most
20 agriculturally sustainable and livestock
21 sustainable areas of the municipality to support
22 larger livestock operations. The area -- as an
23 example, the area where Reeve Stan Toews has his
24 farm is over in this New Bothwell area of the
25 municipality, so it is in one of the more

1 sustainable areas of the municipality.

2 The areas that are in -- on the
3 photograph, and on the mapping system, that is
4 showing up as more of a yellow is this area in the
5 in the center part. And it is an area that is a
6 little more well populated. And it is an area
7 that has a lot of very small livestock operations,
8 as you can tell. And it is also an area that is
9 of greater potential for concern of the types of
10 soil and the types of ground concerns that council
11 needs to take into consideration when looking at
12 approvals of livestock development.

13 The areas in blue are the urban
14 center. And these areas that are kind of showing
15 up in gray here, they are pink on the mapping
16 system, are what we call rural residential or two
17 acre sized lots.

18 Okay. So can I proceed then?

19 THE CHAIRMAN: Please, yes.

20 MR. CAVERS: As a result of our study,
21 council could consider buffer areas where land is
22 currently being for spread acres, how many
23 residents or other livestock existed in the
24 immediate vicinity and their proximity to new or
25 expansion proposal.

1 The computerized mapping system allows
2 for a summarized analysis, giving the number of
3 residences, other livestock operations, including
4 the overall number of animals, an animal units
5 produced, the quantity and types of acres used for
6 manure spreading, and the land still available
7 buffer zone for spreading. Although this is not
8 completely accurate, it does provide an indication
9 to council when areas are full or are getting
10 full.

11 And if I may, we can choose our buffer
12 size. It will show the number of residences that
13 are in the area. It will show the number of other
14 livestock operations that are within that area.
15 The area that was chosen was a one mile radius.
16 It will show the total number of animals and the
17 number of animal units that are produced. And it
18 will show how many acres are being claimed for
19 annual spread, forage or pasture. It will also
20 show the amount of acres being used in the buffer
21 area, as well as the number of acres that are
22 available in the buffer area that have not been
23 claimed.

24 In summary, Hanover has many concerns
25 with the recent changes in Provincial Legislation

1 when dealing with livestock management and
2 agricultural sustainability. Hanover is the
3 largest livestock producer in all of Manitoba. We
4 recognize that proven and accepted scientific
5 methods for measuring the soil sustainability must
6 be considered when dealing with increasing
7 livestock numbers in the region. However, we
8 believe that that accepted standard should be
9 linked to nitrogen uptake by soils, not the amount
10 of phosphorous in Lake Winnipeg. Phosphorous has
11 many sources, not just from livestock. Until four
12 years ago, after Hanover adopted its development
13 plan, linking livestock sustainability to
14 phosphorous was not a standard. Science has still
15 not proven that phosphorous in soils can leach
16 into water or is detrimental to the crop
17 production of an area. The Rural Municipality of
18 Hanover supports local government decision-making.
19 For those municipalities that do not want
20 livestock production development, it should not be
21 imposed. For those that accept it, it should be
22 allowed. If given the opportunity to make that
23 decision, and given the accurate scientific data,
24 it is believed that local government can and will
25 act responsibly and in the best interests of their

1 local residents.

2 Thank you very much.

3 THE CHAIRMAN: Okay. Thank you. And
4 so in these areas that they have taken away the
5 authority, does mean that you can't put in
6 stricter requirements?

7 MR. CAVERS: With the changes in the
8 Planning Act, the municipality cannot make any
9 requirement or set any requirements in the
10 application of manure, as an example. The Rural
11 Municipality of Hanover had, actually, more
12 stringent requirements than the Province did or
13 does for the application and the coverage of
14 manure. Because, from what I understand, the
15 Province allows for application and coverage of
16 manure within 48 hours. Hanover had, in its
17 by-laws, a requirement for application and
18 coverage within 24 hours.

19 As well, the Rural Municipality of
20 Hanover, as an example, set requirements in its
21 conditional use on matters dealing with such
22 things as livestock mortalities, where dead stock
23 bins needed to be placed, or the setbacks of
24 livestock bins placement and the requirement for
25 refrigeration or coolers on site. As we

1 understand it, basically all of the livestock
2 mortality stuff has been taken away from the
3 municipality's jurisdiction. And now we no longer
4 have a say in those kinds of issues.

5 THE CHAIRMAN: Do you know why that
6 is?

7 MR. CAVERS: Well, they didn't listen
8 to us.

9 THE CHAIRMAN: Okay. Edwin?

10 MR. YEE: And just, I guess, a point
11 of clarification. Mr. Cavers, in terms of you
12 mentioned that slide 10:

13 "These criteria can provide thresholds
14 and set limits for prohibition when
15 necessary."

16 You are referring to the items listed, like the
17 type and size of operation or compliance with
18 Provincial guidelines, is that what you are
19 referring to there? I wasn't sure.

20 MR. CAVERS: Sorry, I think that's
21 slide 10?

22 MR. YEE: Yes.

23 MR. CAVERS: Okay. Well, slide 10
24 just sets out the process for conditional uses.
25 And that's just some of the conditions that

1 council could apply in dealing with the
2 conditional use process.

3 MR. YEE: Thank you. I was looking at
4 the wrong slide. In terms of what you mention in
5 the next slide, where you mentioned a Technical
6 Review Committee Report. How much does council
7 rely on the Technical Review Committee Report when
8 considering a conditional land use?

9 MR. CAVERS: The Technical Review
10 Committee Report is only issued on livestock
11 operations of greater than 400 animal units. Up
12 until now, the Rural Municipality of Hanover
13 Zoning By-law requires that our conditional use
14 threshold is at 250 animal units. So our council
15 has had to deal with any livestock operations as a
16 hearing and notification to neighbours, and so on
17 and so forth, at the 250 or above level. So the
18 municipality has had a lot of livestock hearings
19 on smaller operations than what a Technical Review
20 would be done on.

21 Notwithstanding that, though, Hanover
22 has probably dealt with more Technical Reviews.
23 And Hanover Council has probably dealt with more
24 larger livestock operations than a lot of other
25 rural municipalities in the province. And those

1 Technical Reviews, in the early years, going back
2 probably eight or nine years ago, have come a long
3 way from those early years. They have grown from
4 about three pages in length to about 18 to 20
5 pages in length, and a lot better reporting from
6 all of the different government departments as to
7 the concerns that are coming from those different
8 government departments.

9 MR. YEE: So for the -- for the
10 operations that you mentioned you also look at a
11 conditional land use for 250 animal units, which
12 is below the threshold for the Technical Review
13 Committee's Report?

14 MR. CAVERS: Right.

15 MR. YEE: And so do you undertake
16 research, on behalf of your council, to look at
17 the similar types of information and all the data
18 to assess the approval of the conditional land
19 use?

20 MR. CAVERS: It is at a much lesser
21 degree than what the Provincial standard is. My
22 understanding with the new legislation, as well,
23 that 400 number has come down to 300 animal units.
24 And, basically, with Hanover's by-laws, we are
25 having to amend them. And we are in the process

1 of trying to do that, prior to January 1, 2008, to
2 be in compliance with the Planning Act to bring it
3 in line. But, basically, what that has done, is
4 it has meant that the livestock operations that
5 are under 300 animal units are, basically, in
6 compliance with all of the necessary processes,
7 without having to go through a conditional use
8 hearing.

9 MR. YEE: In your slide presentation,
10 I noticed that your buffer area was one mile. Is
11 that pretty much standard or does it vary
12 depending on the operation?

13 MR. CAVERS: Well, I was using the one
14 mile buffer. Based on a lot of the calculations
15 that are done by the Province of Manitoba when
16 they are calculating the number of residences and
17 setbacks from other operations and that kind of
18 thing.

19 MR. YEE: And I guess one last
20 questions that I have for you, and it is probably
21 taking away from Wayne, I am sure he would
22 probably ask this.

23 MR. MOTHERAL: I will always have a
24 question.

25 MR. YEE: In your opinion, in terms of

1 the Planning Act, I gather that you feel that you
2 would prefer having more powers that you once had
3 in terms of manure management?

4 MR. CAVERS: I think the general
5 feeling of our council is that the new Planning
6 Act, as I will refer to it, has greatly restricted
7 the capability of the municipal council to set
8 certain conditions in a conditional use process
9 that were open to them previously.

10 MR. YEE: Thank you.

11 MR. MOTHERAL: Thank you,
12 Mr. Chairman. I commend you very much so on the
13 attention that you have given the livestock
14 industry in this municipality. I know I have
15 talked to Mr. Cavers several times over. And I
16 have always -- the reason why I am saying this is
17 he came from my municipality where there was
18 hardly any action at all. Did Garry Haggerty --
19 like he is out for hire right now, I realize that.
20 But did he have a lot to do with all of this whole
21 plan, this whole policy that you have?

22 MR. CAVERS: Garry re-wrote our -- we
23 had a planning -- our Development Plan and Zoning
24 By-law was completely rewritten in 2001, 2002, and
25 it was Garry that did it.

1 MR. MOTHERAL: Yes. And I know it
2 must be frustrating because, as they say, with the
3 new Planning Act, most of the municipalities have
4 to come up with a livestock operating policy. And
5 you already had one. And now with the new
6 regulations, it's kind of not valid anymore.

7 MR. CAVERS: We have basically been
8 told -- we were told two and a half years after
9 our brand new development plan, that won an award
10 for its excellence, within two and a half years of
11 that being -- receiving an award from the
12 Province, we were, basically, told by the Minister
13 to rewrite our development plan because it was
14 outdated.

15 MR. MOTHERAL: I would, actually,
16 think that with the work you have done, you would
17 be the envy of many municipalities, because they
18 have this work to look forward to. And many of
19 them are now reluctant to do it until our report
20 goes to the Minister because we have lots of
21 phosphorous things to look at. And we are still
22 not finished with our phosphorous yet because we
23 have to get expertise in so that we can understand
24 more of the reasoning for all of this. As you
25 say, phosphorous scientifically is, you know,

1 quite stable in the soil, and all of that, and we
2 know that.

3 And so we have got a lot of work to do
4 on that ourselves, as a Commission, to find out
5 before we can begin our report to the Minister. I
6 commend you for the work that you have done in
7 this area. And as I say, again, you probably were
8 the envy of many municipalities who accepted --
9 who are accepting intensive livestock operations.
10 Right now I don't have any more questions, I don't
11 think. Thank you.

12 MR. CAVERS: Thank you.

13 THE CHAIRMAN: Thank you very much,
14 gentlemen.

15 Next is Jonathan Kleinsasser. Would
16 you state your name for the record?

17 MR. KLEINSASSER: Jonathan
18 Kleinsasser.

19 JONATHAN KLEINSASSER, having been sworn, presents
20 as follows:

21 THE CHAIRMAN: Go ahead, sir.

22 MR. KLEINSASSER : My name is Jonathan
23 Kleinsasser. I'm from Crystal Spring Colony. I
24 also represent Crystal Spring Hog Equipment, which
25 is one of the largest hog equipment manufacturers

1 in our province.

2 What I am presenting is not a
3 technical piece of paper here. It comes from a
4 guy that turned 65 last week, who has lived all of
5 his life on a farm. I have never lived more than
6 a couple thousand feet away from a hog barn. Our
7 current one is a 500 sow, farrow to finish, unit.
8 There are days when the wind blows and my wife is
9 a lot more unhappy than I am. She doesn't like
10 the smell. But has it harmed our health? I would
11 have to lie to say that it has. They are well
12 ventilated barns. We care for the people that
13 work there. It is our livelihood and it's our
14 future.

15 I want to thank this Commission and
16 panel for listening to our concerns and taking the
17 time to try to come up with a fair and reasonable
18 solution to the moratorium that has been the cause
19 of a lot of frustration and ill-will to our hog
20 producers in this province.

21 As a citizen of this world, on a
22 global level, an important point I would like to
23 make is that the hog industry is a major food
24 producer for our country and many other hungry
25 places of world. I truly believe that our real

1 values are at stake and have been somewhat
2 reversed. As food producers, we are very
3 important to this world in general, because we
4 produce food. But we are being painted as
5 culprits by the masses of people that eat this
6 food and also carry the majority of votes in
7 political decisions. We can do without many
8 material things in our lives, and many people in
9 this world do, but we will always need food.

10 Instead of appreciation and praise for
11 doing a great job, we are named people as
12 polluters and as people who don't care about our
13 clean water supply and our environment. We are
14 being intimidated to the point where many farmers
15 are not the proud farmers they truly should be.
16 How many young Canadian farmers consider this a
17 noble and respectful way to make a living to serve
18 our country.

19 As a Manitoba citizen, in my humble
20 opinion, this moratorium is premature. I believe
21 that it is contrary to our valuable justice system
22 in this country. In our justice system, you are
23 innocent until proven guilty. With this
24 moratorium, you are guilty at first count and now
25 you have to prove yourself innocent. And while

1 you are busy doing this, there shall be no more
2 expansion. Is that morally correct? I don't
3 think so.

4 As a Hutterite, I want to make this
5 statement. We, and generations before and after
6 us, live on the same farms. We don't sell our
7 farms. Some of these colony farms are 100 years
8 old. They have always been there, generation
9 after generation. We absolutely do not want to
10 pollute the water we drink, the land we farm, nor
11 the water in our lakes. We want to pass our farms
12 on to our children with good conscience, as good
13 stewards of our land and watershed. We love our
14 children and grandchildren.

15 You know what, I think I gave away one
16 too many copies. This one is missing a page.
17 Somebody has to help me out. You know what, there
18 may be only one. I ran it through a photocopier
19 and didn't realize that one page has copied both.
20 Sorry about this. You got the only good copy.
21 Thank you. Sorry about this.

22 Colonies depend on hog farms to make a
23 living. For most of them, it is their largest
24 single income and to restrict this industry is to
25 restrict their livelihood.

1 So why is this happening? And this is
2 just my opinion. We are, by far, the easiest
3 target. First of all, we cannot go on strike like
4 CNN, airlines, automobile manufacturers or other
5 workers. Our products are perishable. They
6 cannot be stored and stockpiled like dry goods.
7 This makes us very vulnerable, helpless and
8 defenseless, and we depend on the elected
9 government for support and survival.

10 In all of this, I am not trying to
11 defend careless and senseless pollution on a hog
12 farm, if that's where it comes from. We know, and
13 you know, that there is a much higher percentage
14 of pollution coming from our towns, other
15 provinces, the U.S.A., and especially our City of
16 Winnipeg. That should be tackled first and
17 foremost, regardless of the cost and the votes.
18 1.5 percent of the total amount of phosphorous
19 entering Lake Winnipeg has been tested as coming
20 from our farms. Even this amount can be reduced
21 in the future, if we work together. That leaves
22 over 90 percent from other sources.

23 We have the strictest rules and
24 regulations that exist in this world when it comes
25 to spreading manure, building lagoons or just

1 building new facilities. If they are not strict
2 enough, then let's find ways to make them even
3 better. If science and research prove better ways
4 to manage this industry, let's go for it!

5 This industry has never resisted
6 change. This industry has changed almost beyond
7 description in the last 30 years that I can
8 remember. This includes old and new farms. Why
9 shut it down to solve the problems?

10 We have developed excellent ways to
11 spread manure. We know that it is a great organic
12 fertilizer that builds up our soil. It replaces
13 chemical fertilizers that use up non-renewable
14 energy to manufacture. If properly handled,
15 stored and applied, it does not need to be a
16 liability.

17 This industry has created thousands of
18 jobs on the farms besides the spin-off of all the
19 building contractors, the equipment manufacturers,
20 abattoirs and suppliers. The genetics we produce
21 and the production levels we achieve are the envy
22 of many other countries in this world. In other
23 words, this industry has been a large contributor
24 to our economy. Let's keep it growing in a
25 sustainable manner.

1 I have travelled extensively to other
2 countries to sell and service our equipment.
3 Those countries include Australia, the
4 Philippines, many Asian countries. I have been to
5 China, to India, to European countries next month,
6 and to Russia next month. And in those travels, I
7 have yet to visit a country that handles manure
8 and farms as responsibly and as sustainably as
9 ours.

10 Please help us, as you do your review,
11 to protect a minority that desperately needs your
12 support to continue a sustainable growth in this
13 industry.

14 Thank you.

15 THE CHAIRMAN: Thank you very much,
16 Mr. Kleinsasser. Just out of curiosity, what type
17 of equipment do you produce?

18 MR. KLEINSASSER: We produce pretty
19 much a whole line, except ventilation equipment,
20 from farrowing crates, to wet/dry feeders. I
21 think we have been a large contributor to new and
22 improved ideas in hog farms. I am currently
23 developing a crate, since there is a lot of
24 controversy on how to house animals, a gestation
25 stall where a sow would be free to walk in and out

1 as they pace, but also to be able to back out and
2 walk around. We are continuously developing new
3 products.

4 THE CHAIRMAN: How many hogs do you
5 run on your colony?

6 MR. KLEINSASSER: We have a 500 sow,
7 farrow to finish operation.

8 THE CHAIRMAN: I wrote that, actually,
9 on the copy that I lost. And how much land do you
10 have?

11 MR. KLEINSASSER: We farm 5,500 acres.
12 And there is a lot of land there that we would
13 love to put on. We have a contract with a
14 neighbour that puts his manure on some of our
15 land. The crops we raise off of that land are
16 fantastic. People would love to have this
17 fertilizer. I must be just too dumb to understand
18 why people would put chemical fertilizer on when
19 they can put an organic product on there. Our
20 soil in Canada has been depleted of organics over
21 the years. If you take figures from 50 years ago,
22 and test it today, it's gone. It has been used
23 up. Well, this organic material puts some back
24 again.

25 THE CHAIRMAN: Is your colony in

1 Hanover?

2 MR. KLEINSASSER: Salisbury.

3 THE CHAIRMAN: In Salisbury.

4 MR. KLEINSASSER: Some of it is in
5 Salisbury, some in Richot and some in Hanover.

6 THE CHAIRMAN: So just south of here?

7 MR. KLEINSASSER: Yes.

8 MR. YEE: Mr. Kleinsasser, what type
9 of mechanism do you use for injecting your manure?

10 MR. KLEINSASSER: The manure is all
11 knifed in.

12 MR. YEE: So it is an injection
13 system?

14 MR. KLEINSASSER: Yes.

15 MR. YEE: And is there anything that
16 you are using in the feed, for instance, phytase
17 to reduce phosphorous?

18 MR. KLEINSASSER: Repeat that, please?

19 MR. YEE: And are you using any
20 special technologies, including the adjustments to
21 feed, like phytase to improve the phosphorous
22 uptake?

23 MR. KLEINSASSER: Well, because we
24 have such a large land base, phosphorous would
25 never be a problem in our case. We rotate our

1 crop and, yeah, it has never been a problem. We
2 would like to cover a lot more than we do or than
3 we are able to.

4 MR. YEE: Okay. And what type of
5 storage facility do you use for your manure
6 management?

7 MR. KLEINSASSER : We have a lagoon.

8 MR. MOTHERAL: Thank you. There is
9 nothing technically I would like to say. It was
10 a well put together presentation. Thank you very
11 much. It brings to face again the fact of the two
12 percent of the farm population and 98 percent of
13 the rest of the people. And I know that the
14 struggles we have was brought up today and this
15 afternoon and in several other places in Manitoba
16 where we have been. And certainly I think one of
17 the things that we need to look at is to try and
18 create that awareness somehow and get our story
19 out there somewhere. And I know that the Keystone
20 Agricultural Producers have been trying it, but
21 somehow we are not getting some messages across to
22 some people. And so I am hoping we are going to
23 continue looking at that. But, anyway, thank you
24 very much. You looked at the bigger picture here.

25 MR. KLEINSASSER: Thank you very much.

1 THE CHAIRMAN: Thank you for a very
2 thoughtful presentation, Mr. Kleinsasser. This is
3 the last opportunity for anybody else who wishes
4 to make a presentation, going fast. Okay. Well,
5 thank you for coming out this evening. Thank you
6 to the presenters, in particular, who took the
7 time and trouble to prepare their presentations.
8 We will reconvene here tomorrow morning and we
9 will be holding -- we will be conducting hearings
10 tomorrow morning from nine until noon. Good
11 evening.

12 (PROCEEDINGS ADJOURNED AT 8:25 P.M.)

13

14

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, LISA REID, 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.

Lisa Reid

A				
abattoirs 1451:20	1340:20 1341:1	1397:7 1404:7,14	1306:14 1310:13	1380:12 1383:15
abdication 1319:14	1353:18 1356:20	adequately 1398:6	1310:16,17	1383:19 1384:3,4
able 1322:23	1360:3 1363:17	adhered 1314:8	1315:3 1326:8	1384:7,18 1388:5
1329:22 1330:9	1420:17 1436:22	adjacent 1374:15	1327:22 1348:19	1431:16 1433:13
1365:14 1371:9	1437:5,18,20,21	1403:1	1349:3 1359:5	ahead 1310:24
1371:16 1376:13	1453:11	ADJOURNED	1368:23 1369:2	1318:19 1327:21
1376:15 1378:13	across 1383:15	1456:12	1379:10 1455:15	1349:1 1359:13
1381:19 1395:20	1386:10 1455:21	adjust 1336:20	Ag 1380:7,7	1369:9 1394:9
1412:4 1419:25	act 1320:16 1394:20	adjustments	1381:13	1420:12 1423:8
1435:11 1453:1	1407:11,12	1454:20	again 1326:13	1429:3 1446:21
1455:3	1432:22 1438:25	administer 1394:4	1327:1 1344:12	air 1396:23 1397:6
above 1441:17	1439:8 1443:2	administration	1354:18 1410:21	1397:10 1398:4
abroad 1323:3	1444:1,6 1445:3	1328:18 1372:14	1421:18,22	1398:13,17,19
absolutely 1312:21	action 1444:18	administrative	1422:2 1446:7	1399:9,12
1449:9	actions 1373:7	1309:21 1428:24	1453:24 1455:11	1402:13,14,20
absorb 1401:16	activates 1399:14	1429:8	against 1392:15	1404:7,22,25
absorbed 1401:17	active 1395:18	adopt 1336:16	Agency 1402:22	1413:2,5,6,7,11
1401:21	activity 1312:9	1342:3	agenda 1310:18	1414:13,15,16
abundance 1350:2	actual 1425:25	adopted 1329:25	1348:20 1359:6	1416:7
abundant 1378:25	actually 1332:8	1331:10,14	1384:5	airborne 1398:8
accept 1317:16	1347:18 1357:1	1332:15 1341:13	agent 1363:8	airflow 1400:5
1319:4 1438:21	1365:22 1388:13	1431:10 1432:19	1365:3 1401:15	airlines 1450:4
accepted 1309:8	1409:3 1411:2,18	1438:12	agent's 1363:9	airport 1362:15
1317:13,20	1419:14 1439:11	adopting 1337:16	agent/broker	airways 1402:4
1438:4,8 1446:8	1445:15 1453:8	adoption 1341:21	1359:15	Alberta 1379:21
accepting 1446:9	acute 1399:6,20	ads 1360:20	ages 1321:16,19	alfalfa 1423:22
access 1404:16	1402:3	adult 1312:2 1405:9	agitated 1405:6	algae 1318:17
accident 1352:16	acutely 1317:17	advances 1331:9	ago 1316:10	1351:13
1390:24	adaptable 1350:5	1338:6	1321:21 1327:8	allow 1314:9
accommodate	add 1313:3 1363:25	advantages 1315:1	1332:1 1349:19	allowed 1309:6
1421:15,16	1391:2 1409:9	Adventure 1380:8	1358:17 1364:8	1311:24 1361:25
according 1330:7	added 1340:25	1381:13	1438:12 1442:2	1432:9 1434:1
account 1307:4	1365:12	adverse 1399:1	1453:21	1438:22
1398:6	adding 1314:14	advertisements	agree 1326:14	allowing 1313:20
accumulated	1315:19	1360:21	1352:24	1429:5 1431:22
1433:15	addition 1308:23	advertising 1364:11	agreement 1360:10	allows 1314:2
accurate 1319:1	1312:1 1328:3	advice 1306:25	1421:17	1350:23 1380:8
1437:8 1438:23	1329:15 1398:16	advise 1433:11	agricultural	1401:23 1431:24
accurately 1318:4	1404:13 1425:8	advocate 1329:3	1307:20 1325:11	1437:1 1439:15
achieve 1451:21	additional 1313:11	advocating 1379:17	1329:24 1352:4	almost 1344:10
achieved 1402:10	1329:21 1330:10	aerosols 1402:2	1354:25 1356:8	1451:6
acids 1332:10	1334:23 1336:18	affect 1396:3,4	1364:21 1371:2	alone 1350:1
acquaintance	1341:3,6 1342:5	1427:10	1373:23 1387:16	1391:22 1409:11
1364:8	1351:3 1370:7	affected 1394:19	1387:20 1410:13	along 1356:5
acquired 1350:25	1391:4 1419:6	1395:1	1429:19 1431:23	1396:9
acquiring 1417:20	1432:14	affirmed 1310:22	1433:16,25	already 1315:15
acre 1350:10	address 1309:13	afford 1338:20	1435:1 1438:2	1318:23 1324:2
1360:18 1361:6	1315:3 1342:3	after 1308:20	1455:20	1353:9 1417:4
1362:6,11	addressed 1395:6	1310:14 1314:5	agriculturally	1445:5
1424:16 1425:23	1412:14	1337:19 1344:1	1435:20	although 1398:12
1426:2 1436:17	addresses 1390:14	1344:11 1354:25	agriculture 1315:5	1416:17 1430:23
acreage 1321:14	addressing 1350:16	1361:1,10	1319:10,16	1432:18 1437:7
1340:18,24	1351:23 1395:11	1366:19 1369:14	1325:6 1328:12	Aluminium 1392:4
acres 1311:10,11	1395:19 1413:4	1393:8 1421:4	1356:17 1370:20	always 1312:15
1314:17 1321:6	adds 1392:7	1438:12 1445:8	1372:9 1376:17	1337:17 1369:12
	adequate 1333:6	1449:5,9	1377:5,7 1379:18	1382:24 1383:2,2
	1336:15,16	afternoon 1306:3	1379:25 1380:9	1387:19 1412:20

<p>1413:1 1420:15 1443:23 1444:16 1448:9 1449:8 Amazing 1380:7 1381:13 amend 1442:25 amendments 1341:4 amenities 1316:21 America 1350:12 American 1418:21 amino 1332:10 ammonia 1397:13 1401:16,17,20,21 1401:23,25 1402:22 1412:11 1413:10,14 among 1312:6 amount 1319:6 1332:4,8,11,12,17 1333:12 1334:5,7 1335:4 1337:10 1356:19 1378:25 1397:8,21 1402:13 1424:24 1437:20 1438:9 1450:18,20 amounts 1318:24 1319:3 1321:16 1343:9 1405:7,8 analysis 1335:9,17 1398:17 1424:23 1437:2 ancillary 1324:10 and/or 1402:16 Anecdotally 1376:24 1377:3,6 animal 1315:22 1316:2 1318:2 1328:12,22,22 1329:2 1331:22 1379:11,15,18,20 1379:22 1380:2 1380:12 1381:10 1381:14 1383:6 1383:13,15 1384:3,4,6 1386:8 1387:13 1388:8 1388:11 1389:5 1390:18,19 1391:22,25 1392:17 1405:3 1416:13 1437:4 1437:17 1441:11 1441:14 1442:11 1442:23 1443:5 animals 1322:23,25</p>	<p>1329:6 1380:24 1382:7,10 1385:6 1387:14 1389:16 1389:20 1390:1 1391:3,8,14,24 1392:15 1416:11 1416:11 1437:4 1437:16 1452:24 animal's 1392:10 anniversary 1367:11 annual 1314:21 1321:12 1334:12 1420:17 1423:24 1437:19 annually 1312:8,9 1346:12 another 1310:13 1332:14,25 1342:17 1387:3 1414:12 1425:23 Ansel 1360:7,8,11 1368:12 answer 1325:7 1387:13 1410:22 answers 1380:2 Anthrax 1381:18 1381:24 1382:2 anticipate 1355:14 anti-hog 1363:21 anybody 1338:21 1375:25 1382:13 1391:16 1428:1 1456:3 anymore 1445:6 anyone 1365:3 anything 1319:24 1337:6 1375:16 1380:22 1415:5 1454:15 anyway 1455:23 anywhere 1419:5 apart 1321:19 apparently 1316:13 1318:8 appear 1398:12 APPEARANCES 1304:2 application 1314:7 1314:9 1318:1 1319:1 1328:4,5 1331:3 1334:18 1334:25 1335:2,4 1335:7,9 1336:14 1336:15 1347:2,5 1353:6,15 1424:11 1439:10</p>	<p>1439:13,15,17 applications 1335:20 1433:5 applicator 1323:23 applied 1332:13 1333:14 1335:5 1335:10,11,12,14 1353:19 1356:21 1362:2,9 1421:25 1423:3 1451:15 applies 1421:18 apply 1332:5 1343:8,10,24 1410:13 1421:8 1422:25 1424:14 1425:6 1427:10 1441:1 applying 1350:17 1353:20 1426:14 appointed 1457:5 appreciate 1334:15 appreciation 1320:17 1448:10 appreciative 1320:11 approach 1384:9 1418:23 approaching 1415:8 appropriate 1318:2 1398:3 1404:2 1431:25 approval 1349:23 1442:18 approvals 1436:12 approved 1420:24 approximately 1312:8 1340:20 1429:11 April 1303:19 1306:1 1307:22 aquifer 1378:11 arable 1352:24 area 1319:16 1336:6 1340:7,14 1341:9,10 1345:1 1348:6 1361:20 1361:23 1362:14 1362:20,23,24 1365:11 1366:5 1367:16,21 1371:9 1375:12 1377:4,5 1416:12 1419:16 1426:17 1426:19 1433:1 1434:2,3,4,9,25 1435:1,22,23,24</p>	<p>1436:4,5,6,8 1437:13,14,15,21 1437:22 1438:17 1443:10 1446:7 areas 1314:12 1316:21 1321:24 1334:13 1344:22 1345:7,8 1346:15 1347:25 1348:2 1401:24 1406:2 1424:4,6 1431:23 1431:25 1433:16 1433:23,25 1434:1,4,5,5,6,21 1435:2,2,3,16,21 1436:1,2,13,14,21 1437:9 1439:4 arise 1350:4 1351:22 around 1329:19 1339:18 1340:11 1340:12 1374:6 1389:10 1420:18 1453:2 arrange 1349:21 article 1418:17 1419:3 articles 1408:22 1418:12 1419:1,7 artificial 1330:2 1341:15,16 1342:6 ash 1401:7 Asian 1452:4 asked 1307:3 1326:22 1376:14 1378:23 1409:24 1410:18 asking 1325:9 1375:18 1391:13 aspect 1311:24 aspects 1374:1 assess 1442:18 assessing 1412:17 assessments 1397:10 1402:21 1414:14 asset 1365:11 assist 1308:25 assistance 1336:20 associated 1400:18 1401:8,12 assuming 1427:4 Assurance 1314:18 1322:13,22 1323:5 asthma 1400:22,22</p>	<p>1400:24 1401:7 1403:4 asthma-like 1399:20 astounding 1370:12 attain 1413:11 1414:17 attempt 1318:15 1361:14 attempted 1352:7 1360:12,17 1362:16 attempting 1360:15 attempts 1332:16 attend 1328:10 attention 1353:2 1387:17,18 1444:13 attest 1363:8 attributable 1358:5 1366:12 attribute 1362:6 attributed 1363:19 auction 1360:17 1361:9,10 audience 1310:15 augment 1321:9 Australia 1399:4 1452:3 authority 1439:5 automobile 1450:4 availability 1328:25 1335:14 available 1309:9,19 1310:1 1331:19 1331:22 1332:17 1339:14 1340:24 1363:20 1437:6 1437:22 average 1343:17 award 1431:14 1445:9,11 aware 1317:17 1323:7 1392:1,10 1401:11 awareness 1317:19 1325:5 1455:18 away 1344:17 1384:24 1419:20 1439:4 1440:2 1443:21 1447:6 1449:15</p> <hr/> <p style="text-align: center;">B</p> <hr/> <p>baby 1388:10,14 back 1353:23 1356:16 1358:7</p>
---	---	--	--	---

1360:9 1364:15 1380:14 1387:3 1388:5,18 1391:18,23 1419:20 1442:1 1453:1,23 backbone 1375:12 backed 1418:9 background 1419:16 1429:10 backyards 1327:11 back-up 1435:14 bacteria 1365:1 baling 1340:3 ballooning 1373:15 ban 1350:15 1353:11 1357:16 band 1424:9,17,18 banded 1424:19 bankrupt 1360:13 banks 1364:24 banned 1351:18 banning 1350:8 barbecues 1327:9 barely 1363:17 Barkman 1366:7 barley 1423:18 barn 1330:17 1364:13 1380:9 1388:16 1394:16 1396:16 1397:19 1398:18,23 1399:12 1403:25 1404:21 1405:7 1406:7 1412:1 1415:4,10,11 1421:6,12 1447:6 barrier 1342:6 barriers 1330:2 1341:15,17 barter 1345:15 base 1335:25 1352:4,20,24 1361:24 1371:2 1386:21,23 1392:2 1433:1 1454:24 based 1333:3 1341:3 1343:9 1370:16 1385:12 1385:13 1395:8 1407:24 1430:3 1443:14 basic 1312:23 1342:22 basically 1361:13 1363:21 1440:1	1442:24 1443:3,5 1445:7,12 basis 1321:12 1331:25 1374:20 1430:25 basket 1384:1 bear 1319:20 1351:24 1395:24 became 1311:16 1312:17 1328:16 become 1315:7 1331:18,20 1347:22 1405:14 1430:18 becomes 1381:9 1382:8 1430:12 beef 1327:9 1361:15 1388:13 1430:2 before 1312:17 1330:7,21 1355:14 1370:12 1380:21 1397:20 1406:7 1422:6 1424:13 1446:5 1449:5 began 1307:21 1311:14 begin 1406:13 1446:5 begins 1381:11 behalf 1429:5 1442:16 being 1315:14 1329:22 1337:7 1342:6 1346:16 1365:14 1378:13 1382:12,13,14 1388:9 1395:15 1396:14 1405:6 1412:3 1413:10 1414:16 1416:13 1417:4 1435:3,6 1435:19 1436:22 1437:18,20 1445:11 1448:4 1448:14 belief 1395:17 believe 1307:24 1378:9 1414:5 1438:8 1447:25 1448:20 believed 1412:21 1438:24 believes 1317:4 1395:23 below 1398:11 1442:12	belt 1316:14 benefit 1330:3 1331:7 1365:11 1368:19 benefited 1366:10 benefiting 1373:18 benefits 1330:24 1331:16 1366:16 1371:15 1386:25 besides 1366:16,17 1451:18 best 1312:16,22 1314:7 1329:4 1382:24 1397:18 1403:22 1406:19 1413:6,6 1438:25 better 1328:25 1364:14,16 1382:15 1383:1,3 1383:10,10 1389:8 1395:20 1399:9 1411:3 1434:19 1442:5 1451:3,3 between 1326:1 1356:23 1361:6 1370:4 1372:22 1388:12 1412:2 1431:18 beyond 1451:6 bid 1361:5 bids 1360:25 1361:2 big 1338:18 1339:7 1347:22 1363:6 1378:15 bigger 1315:4 1326:17 1338:19 1344:12 1356:1 1455:24 biggest 1392:8 bins 1313:23 1439:23,24 bioaerosol 1397:2 1399:23 Biovail 1377:24 birds 1391:20 birth 1313:9 birthday 1367:12 bison 1391:17 bit 1321:1 1339:3 1340:8,23 1355:8 1367:19 1369:14 1385:10 1390:12 1411:11 1429:10 blame 1351:19 blond 1364:9 blooms 1318:17	1351:13 blows 1447:8 blue 1434:5,5 1436:13 Blumenort 1366:21 1429:16 boar 1371:4 board 1335:8 1351:16 1386:11 1411:1 Bob 1304:14 1359:6 1359:9,11,14 body 1399:16 1402:24 1418:4 boom 1342:4 border 1323:3 bordered 1429:13 born 1315:17 1318:5 both 1322:6 1366:4 1400:19,21 1407:5,10 1430:13 1449:19 Bothwell 1328:8 1429:17 1435:24 bottom 1406:22 bought 1367:25 boundary 1363:10 Branch 1340:14 1345:3 1409:21 brand 1445:9 Brandon 1352:22 1380:5 1387:8,16 bread 1381:3 1383:25 break 1321:19 1393:1,4,7,8 breakdown 1397:5 breakout 1381:18 breaks 1331:21 breath 1400:9 brief 1309:5 1314:23 bring 1374:1 1388:18 1443:2 bringing 1388:3 brings 1392:25 1455:11 broadcast 1424:9 1424:17 broke 1317:22 bronchitis 1399:19 1400:10 Broquerie 1328:3 1340:7,11,12,14 1341:9,10 1342:18 1345:1,2	1352:16,24 1360:3 1361:24 1362:25 1363:4 1365:18 1370:11 1385:14 brother 1328:8 brothers 1360:8,8 1360:11 1368:12 brought 1455:14 BSE 1327:8 buffer 1436:21 1437:7,11,20,22 1443:10,14 build 1334:23 1354:4 1357:5,8 1402:17 building 1349:23 1355:12 1397:7 1402:15 1406:4 1424:5 1450:25 1451:1,19 builds 1451:12 buildup 1324:19 built 1330:17,22 1336:25 1355:14 1361:19 1362:16 bulk 1326:5 bunch 1341:25 1342:1 burden 1319:19 1395:24 burdens 1407:1 burning 1400:8 bursting 1352:13 bush 1336:1,4,7,8 1336:10 business 1328:18 1349:17 1355:24 1358:23 1359:17 1385:5 1406:22 Businesses 1352:11 busy 1385:4 1449:1 butter 1381:4 buy 1420:18 buying 1322:3 bylaw 1432:9 By-law 1441:13 1444:24 by-laws 1439:17 1442:24 by-product 1347:12
C				
calculating 1334:10 1443:16 calculations 1443:14				

<p>call 1310:7 1336:1 1389:2,21 1391:12 1409:23 1424:15 1427:24 1436:16 called 1389:22 came 1353:24 1355:14 1367:17 1426:22 1444:17 Canada 1330:4,8 1338:3 1362:25 1370:3 1373:14 1379:19 1380:16 1392:15 1399:2 1400:23 1406:14 1453:20 Canadian 1314:18 1322:12 1382:21 1416:4 1418:22 1448:16 canola 1423:18 1425:22 capability 1444:7 capable 1366:24 capacity 1362:3 1404:10 capital 1351:1,3 car 1363:9 1390:24 carbon 1402:18,18 care 1312:22 1328:22,23,25 1329:2,5,6 1337:20 1342:1 1379:3 1380:23 1380:24,24 1381:6,6,8,9 1382:10 1385:5,6 1387:13 1447:12 1448:12 career 1325:17 1328:9 1359:24 1360:1,23 careers 1372:12 careful 1381:2 1382:1 carefully 1406:15 careless 1450:11 Carillon 1360:20 caring 1314:12 Carol 1304:17 1393:20 1394:5 carried 1407:2 carries 1398:13 carry 1448:6 carry-over 1423:5 carton 1390:4,5 cartoon 1390:5</p>	<p>case 1321:23 1353:2 1358:12 1454:25 cases 1308:5 1323:6 1334:20 catch 1406:23 category 1318:14 Cathy 1304:7 1394:3 cattle 1316:7 1339:25,25 1362:3 1386:4 1389:21 1391:20 cause 1396:23 1399:7 1447:18 caused 1351:17,20 causing 1350:16 1353:7 1402:18 cautionary 1413:17 Cavers 1304:19 1428:19,20,23,24 1429:1,4,7 1434:11,18,24 1435:8,15 1436:20 1439:7 1440:7,11,20,23 1441:9 1442:14 1442:20 1443:13 1444:4,15,22 1445:7 1446:12 CEC 1405:17 cell 1310:4 census 1362:24 1370:4,4 1429:23 cent 1333:19 center 1436:5,14 central 1312:5 centre 1303:17 1393:16,23 1394:2 1395:7,10 1395:16 1412:21 1417:14,16 centres 1316:17 1370:3 1418:22 1429:15 centrifuge 1342:21 centuries 1354:1 cereal 1311:12 certain 1410:15 1444:8 certainly 1326:18 1376:23 1378:5 1390:15 1413:25 1415:8,9 1417:7 1419:9,23 1426:23 1427:9 1455:16 CERTIFICATE</p>	<p>1457:1 certified 1314:17 1322:22 1323:5 certify 1457:6 cetera 1316:8 1360:22 1375:9 chair 1306:8,9 challenge 1410:25 1411:24 1418:1 challenges 1315:1 1317:20 chance 1360:2 1394:13 1398:23 1410:20 chanced 1391:4 chances 1363:10 change 1337:10 1353:10,12,15 1370:3 1389:6 1426:7 1451:6 changed 1421:14 1451:6 changes 1349:15 1353:8 1395:14 1400:19 1431:6 1432:22 1437:25 1439:7 changing 1329:3 charge 1344:19 cheap 1390:9 cheaper 1329:23 1344:13 check 1398:17 chemical 1353:20 1451:13 1453:18 chick 1388:14 Chicken 1386:6 Chief 1428:24 1429:8 childhood 1403:4 children 1312:2 1352:7 1380:8 1384:10 1449:12 1449:14 China 1452:5 choice 1425:5,5 choose 1317:1 1437:11 choosing 1382:22 chose 1419:1,18 chosen 1385:24 1437:15 Chris 1304:15 1368:25 1369:5,7 chronic 1400:9 chuckle 1363:21 chunk 1356:2</p>	<p>church 1369:11 circle 1430:16 cities 1352:8 citizen 1447:21 1448:19 citizens 1317:16 1318:16 1373:5 city 1369:6 1370:1 1372:18 1375:4 1375:15 1385:15 1387:25 1388:3,7 1429:13 1450:15 claim 1329:1 claimed 1437:18,23 clarification 1410:17 1440:11 Classroom 1380:7 clay 1314:16 1426:20 1427:20 clean 1303:1 1304:3 1306:4,8,15 1308:24 1372:5 1372:19 1403:7 1404:18 1448:13 cleaner 1398:12,15 1402:5 1416:6,8 cleaning 1402:3 clear 1339:13,22 1360:10,12 1389:20,25 clearing 1336:4 clearly 1308:16 1387:16 1399:17 1431:16 clerical 1372:7 climates 1402:9 clip 1384:24 close 1384:21 1391:20 closest 1421:12 Closing 1430:16 CNN 1450:4 coffee 1393:1 colder 1402:9 collapse 1317:18 colleagues 1320:2 collective 1399:16 collects 1333:25,25 Colonies 1449:22 colony 1446:23 1449:7 1453:5,25 combination 1374:14 1401:13 combinations 1401:12 come 1317:20 1327:11,15</p>	<p>1374:21 1376:1,6 1377:1 1390:24 1393:17 1405:1 1409:5 1414:3 1417:24 1426:19 1442:2,23 1445:4 1447:17 comes 1326:19,19 1347:12 1375:19 1419:11 1447:3 1450:12,24 comfortable 1413:24 coming 1348:19 1356:16 1359:4 1368:22 1402:15 1406:9 1413:7 1420:3 1428:16 1442:7 1450:14 1450:19 1456:5 COMMENCING 1306:2 commend 1444:12 1446:6 comment 1309:4 1321:21 1357:2 1376:6 1411:9 1414:12 comments 1306:11 1309:6 1310:10 1339:13 1430:25 commercial 1321:9 1356:16 1422:25 1431:19 commercially 1328:6 Commission 1303:1 1304:3,7 1306:5,9 1306:15 1308:8 1308:13,24 1320:12 1375:25 1379:10 1394:12 1403:7 1417:2 1418:1 1446:4 1447:15 Commissioners 1311:1 1320:3 Commissions 1320:7 commitment 1327:13 committee 1403:21 1441:6,7,10 Committee's 1442:13 commodities 1380:11 1385:24</p>
--	---	---	--	---

<p>1386:2,23 1387:1 1387:10 commodity 1385:15 common 1317:23 1338:9,11 1395:18 commoner 1419:11 commonly 1362:13 communicating 1326:6 communities 1307:20 1316:18 1354:5 1395:1,10 1407:3,15,18 1408:10 1429:16 community 1303:17 1312:13 1364:7 1366:10 1373:16 1376:9,16 1377:10,12 1395:8,19,22 1396:5 1402:20 1407:22,23 1408:7,18 1414:13,15 companies 1328:15 1338:12 1349:13 1366:21 1371:16 1371:22 1377:25 companions 1391:21 company 1328:1,4 1335:4 1354:8 1389:23 comparable 1422:24 compare 1363:2 compared 1330:6 1400:10 1415:4 Compensation 1410:9 1411:1 competence 1320:6 competitive 1330:15 1342:6 competitors 1329:23 complain 1375:7,11 complaints 1375:10 1375:17 1409:20 1428:1 complete 1319:22 1320:6 1395:3 completely 1316:1 1391:6 1437:8 1444:24 complex 1396:19 compliance 1350:24</p>	<p>1440:17 1443:2,6 complicated 1412:3 comply 1403:9 1405:18 component 1306:25 1311:23 1315:23 1317:5 1377:8 1416:14 components 1401:4 1401:6 composite 1343:15 comprehensive 1395:1 comprising 1414:4 compulsory 1410:10 Computer 1431:13 computerized 1314:2 1437:1 concentration 1335:6 1426:24 1426:25 concentrations 1397:12 1399:22 1402:21 1414:14 1416:16 concepts 1432:8 concern 1331:9 1417:16 1436:9 concerned 1329:2 1372:18 1413:20 concerns 1350:17 1351:20,21 1395:18,19 1409:20 1431:5 1436:10 1437:24 1442:7 1447:16 conclusion 1335:22 concrete 1330:17 1330:23 1342:8 1342:16,17 1366:7 concurrently 1407:6 conditional 1431:4 1432:13,18 1433:4 1439:21 1440:24 1441:2,8 1441:13 1442:11 1442:18 1443:7 1444:8 conditions 1432:1 1440:25 1444:8 conduct 1306:17 conducting 1456:9 confidence 1320:3 1320:14</p>	<p>confidential 1309:18 confined 1401:14 1416:12 confinement 1401:10 conflict 1431:18 1434:2,4 conflicts 1432:1 confused 1414:24 congratulations 1375:3 conjunction 1335:20 connected 1378:2 connection 1380:14 1388:5 conscience 1449:12 consecutive 1422:2 consequent 1314:11 conservation 1306:16 1307:8 1333:15 1338:16 1372:21 conserve 1365:8 consider 1307:12 1353:12 1406:15 1432:3 1436:21 1448:16 considerable 1400:20 considerably 1413:22 1415:12 consideration 1395:3 1432:21 1436:11 considerations 1396:2 considered 1382:18 1395:15 1408:5 1416:5 1432:19 1438:6 considering 1441:8 considers 1433:3 consist 1311:10 consistent 1317:14 1372:25 consistently 1373:8 consortium 1367:25 constant 1317:15 1344:13 constantly 1314:14 constructed 1325:24 1330:16 1342:11 construction 1330:19 1349:21</p>	<p>1354:21,24 1356:13 1366:18 1371:14,15 consultants 1308:25 consultative 1395:14 consumers 1326:2 consumption 1314:11 contact 1309:19 1375:24 contacted 1360:15 contaminants 1398:4 1404:23 1412:12 contaminated 1365:5 contaminating 1364:21 contamination 1404:7 contend 1337:8 content 1390:13 contents 1307:7 context 1394:24 1407:24 Continent 1325:21 continually 1326:7 1330:13 continue 1307:22 1313:4 1318:24 1319:6,20 1325:18 1351:6 1352:19 1371:13 1377:25 1383:21 1383:24 1407:16 1452:12 1455:23 continued 1311:17 1352:15 1373:24 1377:23 continues 1350:7 continuously 1453:2 contract 1323:18 1453:13 contracted 1323:20 contractor 1349:9 contractors 1451:19 contracts 1371:17 contrary 1448:21 contribute 1397:5 1401:1 contributed 1366:25 contributing 1319:4 1351:24</p>	<p>contribution 1312:7 1312:13 1314:15 contributor 1451:23 1452:21 control 1331:3 1391:10 1404:5 controlled 1328:22 controls 1400:3 1431:17 controversy 1452:24 convenient 1404:3 conventional 1313:23 conversation 1310:9 1364:12 conversations 1309:17 coolers 1439:25 cooperation 1372:22 coordinate 1380:6 coordinates 1381:15 coordination 1347:17 copied 1449:19 copies 1449:16 copy 1449:20 1453:9 core 1343:18,19 corn 1313:19,22,24 1313:25 1316:14 1322:1 1384:17 1384:19 corner 1377:17 corporate 1372:10 1373:5 correct 1312:20 1368:4 1410:14 1449:2 1457:7 correspondingly 1396:18 cost 1315:16 1322:2 1322:3,4 1326:10 1330:10 1339:5 1450:17 costs 1315:12 1330:1,2,7 1331:11 1332:24 1333:18 1334:17 1334:18 1341:13 1341:24 1342:5 1347:22 1357:1 1406:23 1430:17 coughing 1400:8 council 1379:11,15</p>
--	---	--	--	--

1379:22,24,25 1381:14 1383:6 1383:13 1386:3 1389:5 1431:25 1432:3,21,23 1433:3,11,23 1434:24 1435:2 1436:10,21 1437:9 1441:1,6 1441:14,23 1442:16 1444:5,7 councils 1374:19 1379:20 Council's 1432:16 count 1448:24 countries 1350:6 1383:25 1399:3 1451:22 1452:2,3 1452:4,5 country 1316:15 1318:12 1382:21 1383:16,24 1447:24 1448:18 1448:22 1452:7 countryside 1317:12 couple 1327:7 1358:17 1369:18 1409:25 1414:25 1418:15 1447:6 courage 1320:15 course 1344:14 1345:14 1364:23 1368:7 1374:18 1382:4 1387:12 1390:13,16,20 1391:7 1392:7,9 1426:23 Court 1359:1 1457:5 cover 1428:10 1455:2 coverage 1439:13 1439:15,18 covered 1410:8 1420:22 1428:14 covers 1390:20 cow 1340:9 1388:12 1388:13 1390:4,5 cows 1327:11 1389:22 co-ordinated 1382:3 crack 1389:1 crate 1452:23 crates 1452:20 create 1330:2	1336:3,5 1337:1 1354:4 1364:3 1455:18 created 1416:13 1430:8 1433:24 1451:17 creates 1342:5,5 creating 1332:21 1336:5 1370:21 1373:12 crippling 1318:11 criteria 1432:11 1440:13 critical 1381:19 1403:18 criticized 1433:13 crop 1313:21 1314:13 1315:7 1323:15 1335:14 1344:1 1353:25 1424:23 1425:4,5 1438:16 1455:1 cropland 1311:11 1312:4 1321:7 1352:10 1353:20 cropping 1314:10 1340:3 1345:9 crops 1311:13 1314:13 1315:20 1321:11 1334:16 1336:11 1337:13 1371:8 1420:17 1423:4,15,24 1425:5 1453:15 cross-examine 1308:22 crowd 1382:24 1391:10 crucial 1319:25 1320:20 Crystal 1446:23,24 culprit 1351:15 culpits 1448:5 cultivated 1335:12 1345:8 cumulative 1412:13 curiosity 1452:16 current 1306:20 1320:4 1335:24 1335:25 1336:12 1336:13 1389:12 1406:15 1407:13 1418:25 1431:10 1447:7 currently 1311:14 1329:13 1330:4 1336:23 1337:12	1436:22 1452:22 curtail 1316:2 customer 1364:16 customers 1349:17 1354:16 1364:15 cut 1392:3 cutting 1340:3 cycle 1316:2 1331:23 <hr/> D <hr/> dad 1384:22 daily 1313:19 1320:18 dairy 1349:6 1358:21 1386:3 1388:12 1430:1 damage 1396:17 Dan 1304:12 1327:16,18,19,24 dander 1397:4 1401:6 1416:13 danger 1391:5,24 1405:1,12 dangerous 1405:21 1405:25 dangers 1381:25 data 1411:2 1429:23 1433:10 1438:23 1442:17 Datalink 1431:13 dawn 1389:1 day 1310:1 1316:11 1404:21 days 1359:18,22 1380:21 1381:1 1381:20 1400:3 1447:8 dead 1439:22 deadline 1309:10 deadlines 1336:9 deal 1362:13 1381:22 1432:24 1441:15 dealers 1371:19 dealing 1381:17 1431:7,22 1432:17,23 1433:4 1435:18 1438:1,6 1439:21 1441:1 dealt 1431:1 1433:23 1441:22 1441:23 death 1391:5 debate 1318:6 decades 1319:11	decide 1349:20 1351:5 decided 1393:5 1408:6 1413:21 decision 1438:23 decisions 1313:4 1389:7,8 1408:4 1448:7 decision-making 1433:7 1438:18 decline 1352:15,19 1370:23 declined 1319:16 decomposition 1405:3 decrease 1330:7 1331:11 1336:17 decreased 1330:6 1337:24 decreases 1332:8,11 dedicated 1326:6 deep 1406:1,8 deeper 1401:24 deeply 1401:22 defend 1450:11 defenseless 1450:8 defined 1411:17 definitely 1325:15 1415:10 1427:8 1429:21 definition 1415:4 deforestation 1336:5 degree 1328:12,18 1442:21 delivered 1401:22 demand 1334:13 1339:21 1372:4 demands 1336:2 democracy 1316:25 demographic 1386:10 demonstration 1325:22 demonstrations 1387:8 Denmark 1418:20 densities 1352:17 density 1353:16 1354:1 1416:10 1416:18 Department 1409:21 1410:2 departments 1433:11 1442:6,8 depend 1383:25 1449:22 1450:8	depending 1339:4 1340:23 1443:12 depends 1312:22 1316:9 1338:25 1339:23 depleted 1453:20 describe 1331:15 described 1308:14 describing 1368:1 description 1451:7 descriptive 1314:24 desperately 1452:11 desperation 1361:3 despite 1313:3 1350:9 destroyed 1392:14 detailed 1314:19 1335:9 detectors 1404:20 determine 1306:21 1333:10 1404:24 determining 1366:24 detrimental 1438:16 develop 1328:21 1330:1 1336:16 1336:21 1341:15 1397:20 1398:24 1400:24 1405:9 1413:21 developed 1315:6 1361:20,23 1362:12,15 1451:10 developing 1362:15 1452:23 1453:2 development 1362:12 1374:13 1374:14,16 1377:16 1394:24 1407:12 1431:10 1431:15,16,18,19 1431:20,23,24,24 1432:7 1433:14 1433:16,25 1434:7 1435:4 1436:12 1438:12 1438:20 1444:23 1445:9,13 developments 1431:2 dialogue 1383:8 Diana 1304:17 1393:24 1394:7 die 1400:16
--	--	---	---	---

died 1317:22 1405:15	diversified 1370:21	drowsiness 1399:13	1370:22 1371:23	Employers 1403:10
diet 1332:19	diversity 1370:15	dry 1313:22 1450:6	1372:16 1373:9	1403:11,23
difference 1388:12	1372:15	due 1400:12	1373:24 1374:9	1404:1 1405:19
1421:11	doctors 1409:6	1432:21	1407:8 1451:24	employment
different 1328:9	documented	duly 1457:5	educate 1383:9	1311:25 1312:1
1340:19 1344:11	1396:21 1397:2	dumb 1453:17	educated 1353:1	1354:4 1364:12
1355:1 1367:6,9	1400:7 1403:6	during 1308:20	educating 1379:17	1371:7 1373:17
1367:19 1412:22	documenting	1327:8 1349:14	1380:3	employs 1329:13
1416:7 1424:18	1402:25 1418:4	1393:4,7 1397:11	Edwin 1304:5	emptied 1405:6
1442:6,7	documents 1395:13	1400:12 1402:2	1306:10 1323:8	1406:5
differently 1333:3	1419:18	dust 1397:15	1340:15 1356:3	emptying 1405:25
difficult 1325:25	doing 1312:16	1398:21 1399:21	1367:3 1374:10	enable 1371:21
1339:3 1402:12	1324:6 1367:21	1401:16,20	1410:15 1427:13	encourage 1318:1
1415:17	1383:1,10,20,21	1402:2,11	1440:9	1355:5 1383:7
diligence 1320:5	1385:4 1388:22	1403:12 1409:12	effect 1354:6	1418:12
dinner 1310:14	1448:11 1449:1	1411:17 1413:9	1355:15 1371:3	encouragement
direct 1306:19	dollars 1329:17,21	dusts 1396:20	1371:13 1398:18	1373:1
1312:9 1318:25	done 1307:1 1320:7	1397:4,19 1398:5	1416:18	end 1307:11
1372:12	1335:17 1337:15	1401:1,5,9,13	effective 1306:22	1326:11 1354:11
direction 1328:10	1348:12 1368:10	1411:21 1412:2,3	effectively 1371:10	1368:17 1376:20
1391:19	1368:12 1397:11	1416:12	1402:13 1404:11	1378:19 1393:1
directly 1314:1	1403:20 1441:20	Dwight 1384:13	effects 1371:21	1422:4 1435:16
1330:12 1354:13	1443:3,15		1373:11 1396:24	1435:17
1357:14 1358:4	1445:16 1446:6	E	1399:1,9 1401:20	endanger 1392:9
1382:6 1394:18	doomed 1320:21	each 1314:6	1412:13 1413:20	endeavours 1309:1
Director 1393:21	door 1309:20	1316:25 1331:15	efficiencies 1416:17	ended 1361:11,18
disappointing	1388:24	1340:23 1377:4	efficiency 1330:14	ending 1381:10
1319:21	dot 1433:20	1430:7 1432:2	efficient 1331:12	endotoxin 1397:14
disappointment	doubt 1315:8	1433:20,21	1415:22,25	1400:17,21
1319:14	1376:2	earlier 1313:21	1430:18	endotoxins 1400:15
disconnect 1388:23	Doug 1304:8,19	1320:10 1341:11	effort 1365:8	energy 1313:22
disconnection	1429:1,7	1376:14,21	efforts 1307:4	1332:6,7 1451:14
1326:1	Douglas 1428:23	early 1307:21	1326:12	enforced 1407:14
discouraging	down 1327:9	1349:14 1362:18	eight 1442:2	engage 1310:9
1318:3	1331:21 1357:21	1399:6 1442:1,3	Eisenhower	engaged 1309:14
discuss 1374:20	1358:9 1363:13	earn 1361:15	1384:13	1419:21
discussed 1348:10	1422:3 1428:13	earthen 1314:5	elaborate 1411:11	engaging 1308:24
discussion 1364:20	1442:23 1451:9	1323:12 1330:19	elected 1319:15	enjoyed 1324:25
Disease 1402:23	downturn 1356:5	1420:21	1450:8	enough 1321:7,10
diseases 1399:18	1358:13,13	easier 1345:8	electricians 1356:14	1324:16 1339:15
disfavour 1406:13	Dr 1390:17	1433:8	eliminate 1402:7	1347:13 1390:23
dispatcher 1391:13	drain 1342:17	easiest 1450:2	eliminating 1313:10	1404:10 1405:12
disposal 1432:25	drainage 1353:3	east 1363:3 1429:13	1313:21 1404:6	1405:13 1435:9
dispose 1347:10	1361:14 1362:1	eastern 1372:2	embedded 1407:10	1451:2
1360:15,16	1368:7	easy 1384:15	embrace 1407:7	ensure 1307:17
disposed 1332:22	dribbled 1335:15	1403:24 1418:8	emergency 1382:4,6	1337:18 1350:2
distance 1313:6,8	drilled 1365:4	eat 1448:5	1390:12,21,22	1387:12 1394:25
1356:23 1406:3	1378:10	eclectic 1418:16,23	1392:8	1403:8 1404:1
distress 1399:21	drink 1334:1	ecological 1406:16	emissions 1397:2	1405:17 1407:13
1405:10	1449:10	economic 1312:9	emotions 1318:7	1413:5,6
distribution 1317:6	dripping 1334:4	1336:23 1368:16	employ 1352:11	ensuring 1414:1
district 1372:21	drivers 1372:4	1374:1 1407:1	1371:22	enter 1337:11
1374:15	drives 1329:24	economically	employed 1354:12	1405:5
diverse 1376:19	driving 1353:11	1315:11	1354:14 1357:13	entered 1405:15
diversification	1377:12	economies 1329:19	employees 1357:20	entering 1319:5
1352:6	drop 1355:18,22	economy 1329:22	1357:22 1373:19	1450:19
	drove 1366:6	1370:14,15,16,21	1386:16	enterprise 1311:11

1313:14 1330:13 enterprises 1352:2 1396:13 entitled 1307:9 entry 1309:20,24 environment 1303:1 1304:3 1306:4,8,15 1308:24 1312:17 1312:17,18 1329:7 1331:12 1331:16 1332:24 1336:23 1337:18 1351:11 1372:19 1373:3,6,12 1375:25 1394:20 1403:7 1407:11 1407:15,18 1435:19 1448:13 environmental 1306:17,20 1307:9,15 1313:1 1318:23 1329:10 1331:7 1335:23 1337:17 1350:17 1353:8 1394:19 1395:2 1396:17 1397:10 1402:20 1406:12,19 1407:1,23,25 1414:13 environmentalism 1380:21 environmentally 1351:8 1408:11 1420:23 environments 1396:20 1401:10 envy 1374:5 1445:17 1446:8 1451:21 enzyme 1331:20,24 1332:1 enzymes 1324:7 Epidemiological 1400:6 episodically 1399:24 equation 1430:14 Equine 1386:5 equipment 1319:2 1334:4 1335:7 1349:5,9 1355:24 1356:12 1358:21 1371:19 1402:12 1402:16 1404:2 1421:16 1446:24	1446:25 1451:19 1452:2,17,19 equity 1320:5 especially 1320:9 1324:25 1350:24 1351:20 1374:18 1390:22 1450:15 essential 1353:5 establish 1335:18 1347:21 established 1334:3 1345:21 1355:1 1356:15 1377:22 1395:8 estate 1359:15,17 1359:25 1363:7,9 1363:11,13 1364:4 1365:3,12 et 1316:8 1360:22 1375:9 eternally 1317:25 ethical 1407:7 1408:11 Europe 1350:7 European 1399:3 1452:5 ethanize 1391:9 ethanizing 1392:16 evaluate 1398:18 1404:22 1432:1 even 1312:11 1317:18 1319:21 1336:24 1341:21 1367:17,19 1370:21 1388:8 1399:12 1411:23 1411:25 1412:4 1414:8 1415:12 1421:10 1450:20 1451:2 evening 1310:13 1375:19 1393:11 1393:15 1394:11 1420:3 1456:5,11 event 1389:12 eventually 1361:18 1406:23 ever 1319:1 1324:17 1326:2 1365:4 every 1311:24 1312:24 1314:25 1316:16 1320:2 1320:19 1333:19 1343:3,6,7 1356:10 1363:7	1364:2 1372:1 1396:6 1420:22 1420:25 1421:7,8 1421:21 1422:1 1428:10 1430:7 everybody 1344:6 1350:18 1351:24 1376:10 1417:8 1427:4 everyday 1390:3 everyone 1380:13 everything 1317:23 1419:2 evidence 1400:20 1402:25 1418:4 exacerbate 1400:21 exactly 1381:24 Examination 1307:9 example 1325:23 1373:4 1401:16 1413:19 1425:13 1430:11 1435:23 1439:10,20 examples 1320:22 exceed 1402:22 1414:7 Excel 1327:25 1329:11,13 excellence 1431:14 1445:10 excellent 1361:21 1451:10 except 1452:19 exceptions 1308:5 1323:7 excess 1331:13 1332:21 1333:4,7 excessive 1402:25 1405:8 exchange 1338:4 excreted 1319:3 1332:11 Executive 1393:21 Exhibition 1380:6 1387:9,19 exhibits 1305:1,3 1380:2 exist 1315:10 1450:24 existed 1436:23 existence 1379:16 existing 1351:2 1413:9 expand 1352:5 1355:8 expanded 1330:25	1342:19 1349:17 1406:11 expanding 1349:20 1350:3 1351:18 1354:2 1432:4 expansion 1350:8 1351:6 1406:13 1407:17 1436:25 1449:2 expect 1309:2 expected 1350:5 expecting 1355:18 1355:21 expedient 1312:18 expensive 1331:20 1346:20,24 experience 1354:19 1354:23 1359:21 1365:6 1380:9 1382:12 1398:10 1399:6 experienced 1354:17 1388:15 experiences 1369:19 expert 1364:22 expertise 1407:22 1445:23 experts 1384:6 explain 1341:16 1381:23 1390:12 1430:20 exploring 1403:16 exponentially 1391:4 exposed 1397:22 1399:11 1405:4 exposure 1396:22 1397:15,20,24 1398:4,7,11 1399:9,12 1400:17,21 1401:8,20 1402:2 1403:12 1404:5 1404:24 1405:8 1405:21 1411:10 1411:13,18 exposures 1317:9 1398:10 express 1365:14 extensively 1360:20 1452:1 extent 1401:2 extract 1345:6,11 extraordinary 1350:13 extremely 1315:22	1316:3 1330:5 1351:19 1363:11 1405:2 eyes 1400:9 e-coli 1365:1 <hr/> F <hr/> face 1355:2 1455:11 facilities 1342:9,11 1349:10 1352:10 1354:7 1371:17 1371:18 1451:1 facility 1455:5 facing 1324:18 fact 1366:17,19 1387:11 1409:1,9 1409:12 1411:23 1413:19 1414:1 1416:6 1424:13 1455:11 factor 1347:22 fail 1320:21 fails 1320:19 fair 1325:21 1350:20 1378:17 1380:5 1387:8,16 1387:16,20 1447:17 fairly 1338:8 1366:8,8 fairness 1320:5 fall 1318:13 1334:2 1344:1 1392:6 1420:25 falls 1334:9 families 1337:19,20 1407:3,15 family 1311:13,16 1311:19 1312:15 1312:19 1328:10 1329:12 1388:18 1396:5 family's 1381:3 family-owned 1396:12 fantastic 1453:16 far 1310:11 1318:19 1322:18 1367:14 1367:21 1369:25 1450:2 farmed 1311:20 1328:8 1388:2 farmer 1311:8 1312:24 1338:17 1361:8 1363:14 farmers 1315:10,17 1316:11 1317:13
--	--	--	---	---

1317:24 1319:20 1320:13 1322:13 1322:14 1325:16 1327:9 1329:6 1330:8,9,10 1334:14 1337:15 1339:18,19 1344:23 1353:4 1361:8,19 1365:6 1371:9 1379:18 1381:7 1382:23 1382:25 1385:1,2 1385:4 1386:4,8 1427:7 1430:14 1430:17,17 1448:14,15,16 farming 1311:14,21 1312:24 1314:24 1316:18 1317:9 1325:2,17 1328:19 1329:8 1334:17 1352:3,8 1360:12 1361:15 1362:7 1380:20 1382:22 1383:23 1384:15 1388:24 1408:8,12 farms 1328:2,5 1330:13 1331:15 1332:15 1334:6 1334:13,15,23 1348:6 1351:11 1352:5 1354:3 1403:4 1408:16 1410:9 1430:15 1449:6,7,7,11,22 1450:20 1451:8 1451:18 1452:8 1452:22 farm's 1311:23 farrow 1311:10 1321:3 1339:2 1447:7 1453:7 farrowing 1371:4 1452:20 farther 1371:5,8 far-reaching 1371:4 1373:11 fast 1456:4 faster 1352:21 fastest 1370:2 favour 1334:20 feasible 1357:1 feather 1327:1 February 1418:17 1418:25 fecal 1365:1 1401:4	feces 1397:5 1416:15 fed 1333:2 Federal 1433:11 Federation 1393:15 1393:22 1394:1 feed 1313:14 1319:2 1324:3 1328:25 1329:16,16 1332:24 1338:22 1353:23 1367:1 1401:3 1454:16 1454:21 feedback 1306:25 feeder 1333:25 1420:17 feeders 1333:23 1452:20 feeding 1314:2 1332:14,20,25 1333:1,2 1338:7,8 1338:15,25 1339:3 1383:24 1383:25 Feeds 1372:9 feel 1312:11 1324:11 1347:6 1365:10 1444:1 feeling 1444:5 feels 1317:18 1325:24 feet 1447:6 fellow 1311:2 1316:10 1320:13 1325:6 felt 1319:12 females 1333:2 fertility 1312:4 fertilize 1336:11 1339:16 fertilized 1313:12 1321:14 fertilizer 1315:8 1321:8,11 1322:6 1322:8 1339:21 1344:16 1353:22 1422:25 1423:3 1451:12 1453:17 1453:18 fertilizers 1315:13 1353:20 1427:11 1451:13 fever 1399:13 few 1306:11 1316:21 1317:10 1322:19 1324:1 1331:19 1336:25	1342:12 1346:15 1375:17 1377:13 1379:12 1410:1,2 1410:16 1419:1 fewer 1356:11,12 field 1313:25 1333:20 1353:24 1384:17,19 1421:5,9,12,12,20 1421:20,24 1422:1,8,10,17,22 1425:13 fields 1323:15 1324:14 1340:19 1340:21 1371:10 1421:13,15 1422:24,24 1427:7,15 fighting 1328:24 figure 1423:8 figures 1453:21 Filipino 1373:15 fill 1346:3 final 1307:22 1310:8 1320:15 finally 1309:21 1310:4 1395:23 1408:8 1411:17 financial 1312:5 1316:22 1319:19 1336:19 financing 1349:22 find 1310:2 1326:10 1340:4 1371:6 1375:14 1383:3 1397:18 1417:2 1417:17 1419:8 1422:19 1446:4 1451:2 finding 1373:16,19 1383:1 fine 1316:24 1319:2 1434:23 fingers 1325:1 finish 1311:11 1321:3 1339:2,10 1382:11 1392:13 1447:7 1453:7 finished 1445:22 finisher 1332:3 finishing 1371:5 finite 1413:2 fire 1391:1,18 firm 1360:7 1365:4 first 1310:17 1330:16,16,25 1337:23 1338:7	1344:11 1361:1 1367:7,24 1375:13 1378:23 1382:4,15 1393:15 1403:18 1421:4,25 1425:4 1448:24 1450:3 1450:16 firsthand 1380:10 Fisher 1340:14 1345:3 fit 1404:17 five 1393:13 1429:15 fix 1345:25 1356:11 fled 1316:17 focus 1315:19 1319:8 1349:7 focused 1326:21 focuses 1313:1 focusing 1311:5 folk 1419:15 folks 1325:20 following 1331:13 1396:8 follows 1310:23 1327:20 1348:25 1359:12 1369:8 1379:8 1394:6,8 1420:11 1429:2 1446:20 food 1315:18 1316:8 1317:6,14 1317:21 1318:3 1318:11 1319:23 1319:25 1320:18 1320:21 1326:1,5 1385:5 1390:2,8,9 1447:23 1448:2,4 1448:6,9 foods 1317:11 footprint 1406:16 forage 1311:13 1437:19 force 1384:4 forecasting 1354:10 foregoing 1457:7 foremost 1450:17 formalities 1379:4 formed 1405:3 formidable 1315:16 formulation 1332:6 1332:7 forth 1367:2 1387:4 1441:17 fortunate 1336:9 1370:24 1373:22	1424:1,4 forward 1373:24 1417:18 1445:18 fossil 1402:10 found 1415:21 1416:6 foundation 1379:24 1380:15 1383:22 four 1310:13 1340:14 1367:18 1367:20 1378:9 1379:19 1438:11 framers 1356:14 free 1333:17,18 1360:21 1452:25 fresh 1402:14 1413:7,11 Friedensfeld 1303:17,18 friends 1311:2 1329:12 1380:4 front 1393:17 frustrate 1313:4 frustrating 1445:2 frustration 1319:13 1447:19 fuel 1313:15 1314:11 1315:20 fuels 1402:10 full 1310:18 1331:25 1348:21 1350:23 1352:13 1360:20 1385:7 1420:7 1437:9,10 fully 1314:17 1352:25 full-time 1311:25 1386:15 1398:20 fun 1359:20 function 1400:20 fund 1318:25 fundamental 1312:24 1317:5 1320:20 funded 1319:15,19 1385:21,22 further 1307:7 1319:2 1341:24 1354:10 1362:10 1367:18 1395:19 future 1315:9 1316:8 1318:25 1335:20 1347:7 1355:3 1378:13 1381:23 1383:24 1384:8 1406:15 1447:14 1450:21
--	--	--	--	---

G				
gain 1306:25 1380:14	GIS 1431:5	gone 1317:21 1332:7 1354:19 1453:22	gray 1434:17 1436:15	1376:15 1433:6 1433:24 1434:3 1452:12
gallon 1333:20	give 1334:17 1344:16 1376:15 1381:21	good 1306:3 1317:23 1318:5 1327:22 1330:18 1334:19,21 1337:15 1349:3 1353:4 1362:22 1365:7 1368:2,17 1369:2 1373:5,16 1374:7 1382:25 1382:25 1383:20 1383:21 1386:21 1387:2,23 1388:20 1393:11 1394:11 1412:5 1412:23 1416:25 1427:20 1449:12 1449:12,20 1456:10	grazes 1339:25 grazing 1340:1 great 1341:11 1372:22 1373:4 1386:22,24 1388:17 1389:16 1412:1 1416:16 1448:11 1451:11	Grunthal 1429:16 guess 1321:15,15 1324:2,10 1339:23 1340:6 1340:22 1344:12 1344:21 1345:3 1345:11,23 1368:18 1374:12 1410:17 1411:14 1412:16 1414:15 1416:18 1440:10 1443:19
Garfield 1384:22	given 1308:13 1336:16 1410:19 1414:2 1438:22 1438:23 1444:13	goods 1450:6	greater 1314:10 1330:14 1398:23 1436:9 1441:11	guests 1379:10
Garry 1431:12 1444:18,22,25	gives 1328:21 1330:11 1331:3 1347:1 1372:13	gotten 1422:1	green 1434:2,9,11 1434:15	Guide 1308:14
gas 1397:8 1401:15 1402:13 1404:20 1405:3	giving 1341:21 1342:2 1365:17 1394:13 1437:2	government 1318:16 1319:7 1329:25 1330:1 1336:19 1337:3 1341:12,14 1347:17 1350:21 1351:2 1355:5 1438:18,24 1442:6,8 1450:9	great-grandparents 1384:12	guidelines 1413:8 1413:21,23 1414:12,16 1440:18
gases 1396:20 1397:1,4,15,19 1398:22 1401:13 1401:14 1403:12 1404:11,21 1406:6 1409:13 1411:17,21,22 1412:2,3 1416:14	Glenlea 1383:11	goodness 1450:6	grew 1328:7	guilty 1448:23,24
Gate 1380:5 1385:23,23	global 1314:8 1323:23 1447:22	gotten 1422:1	grey 1434:12	gumbo 1427:23
gather 1323:21 1324:3 1410:6 1416:15 1444:1	globally 1406:14	government 1318:16 1319:7 1329:25 1330:1 1336:19 1337:3 1341:12,14 1347:17 1350:21 1351:2 1355:5 1438:18,24 1442:6,8 1450:9	groceries 1381:4	guy 1447:4
gathered 1433:9	go 1310:24 1327:21 1346:21 1347:8 1349:1 1359:13 1360:13 1363:12 1367:19 1369:9 1380:8 1387:20 1391:19 1394:9 1411:19 1412:17 1420:12 1423:8 1429:3 1443:7 1446:21 1450:3 1451:4	goods 1450:6	grocery 1377:17 1390:3	guys 1343:17 1435:8
gathers 1407:21	goats 1316:8	GPS 1335:8	ground 1436:10	
gave 1361:24 1409:23 1449:15	Goertzen 1304:15 1369:1,2,5,6,7,10 1369:17,21 1374:7,13,17,25 1375:1,13,21 1376:5,19 1377:6 1377:19,23 1378:8,14,18,24 1379:2	gradually 1311:18	grounded 1395:17	H
general 1349:4,9 1411:5 1426:17 1426:18 1430:25 1431:5 1432:8 1444:4 1448:3	going 1342:25 1343:2 1348:12 1355:2 1363:22 1369:13 1377:18 1379:12 1382:19 1383:23 1388:17 1389:10 1391:6 1391:17,18 1396:6,7 1417:2 1419:10 1425:21 1427:10 1442:1 1455:22 1456:4	graduate 1309:14	group 1308:2 1327:25 1329:11 1351:19	Haggerty 1431:12 1444:18
generally 1343:23 1365:7 1428:11	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	graduated 1328:11 1328:17 1350:23	grow 1311:12 1313:13 1315:20 1336:11 1337:13 1355:3,3 1377:24 1378:1 1420:16 1423:15,17 1425:22	half 1339:10,10 1351:21 1354:23 1372:2 1445:8,10
generate 1397:4	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	grain 1313:19,20 1314:3 1331:22 1345:9	grower 1332:2	halfway 1391:18
generated 1356:24	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	grains 1311:12 1313:14	growing 1311:18 1352:21 1370:3 1371:22 1374:9 1374:10 1380:19 1383:13 1402:24 1418:4 1451:24	hall 1377:15 1381:17 1391:19
generation 1382:21 1420:13 1449:8,9	going 1342:25 1343:2 1348:12 1355:2 1363:22 1369:13 1377:18 1379:12 1382:19 1383:23 1388:17 1389:10 1391:6 1391:17,18 1396:6,7 1417:2 1419:10 1425:21 1427:10 1442:1 1455:22 1456:4	grandchildren 1384:11 1388:4 1388:18 1449:14	grocery 1377:17 1390:3	hand 1320:14 1391:6 1435:6
generational 1388:1	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	grandfather 1429:21	ground 1436:10	handle 1382:5 1390:21 1391:8
generations 1352:5 1449:5	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	Grandin 1390:17	grounded 1395:17	handled 1451:14
genetics 1451:20	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	grandpa 1380:18	group 1308:2 1327:25 1329:11 1351:19	handles 1452:7
gentlemen 1306:4 1327:23 1349:3 1446:14	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	grandparents 1384:12 1388:2	grow 1311:12 1313:13 1315:20 1336:11 1337:13 1355:3,3 1377:24 1378:1 1420:16 1423:15,17 1425:22	hands 1339:20 1361:18
geographic 1431:4 1433:5	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	grass 1335:15,15	grown 1349:17 1363:1 1377:21 1430:6 1442:3	hands-on 1372:12
gestation 1452:24	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	grassland 1336:4 1344:22	growth 1332:3 1335:14 1352:6 1363:4 1365:17 1365:18 1366:12 1366:13 1367:16 1367:18,20 1369:24,25 1370:1,9,18 1371:25 1373:25	Hanover 1311:9 1312:8 1347:25 1352:16,23 1370:9 1427:16 1427:18,23 1428:19,25 1429:6,9,11,12,18 1429:21,24 1430:17,21 1431:1,9,13,15 1432:8,18 1433:3 1433:13 1437:24
gets 1324:17 1333:6 1345:5 1346:24 1380:13 1382:16 1422:22 1432:9	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	grateful 1311:3 1320:11		
getting 1325:18 1390:8 1412:9 1413:20 1418:22 1437:9 1455:21	goes 1313:25 1367:22 1371:5 1382:6 1396:15 1409:2 1413:1 1445:20	gravitating 1362:24		

1438:2,12,18 1439:11,16,20 1441:12,21,23 1454:1,5 Hanover's 1431:23 1442:24 happening 1450:1 happens 1312:20 hard 1316:20 1317:9 1319:6 1321:19 1322:12 1325:18 1326:5 1345:6 1376:22 1377:1,1 1417:17 harder 1344:14 hardly 1444:18 harmed 1447:10 harmful 1396:24 1398:14,16,21 1402:13 1404:11 1404:21 harming 1397:22 harvest 1314:6 harvested 1313:19 1313:24 harvesting 1313:21 1314:12 haul 1313:15 hauling 1347:22 1389:1 having 1310:22 1325:19 1327:19 1339:13 1348:24 1354:7 1359:11 1359:20 1369:7 1379:7 1382:20 1394:5,7 1420:10 1429:1 1442:25 1443:7 1444:2 1446:19 hay 1336:10 1340:3 1362:5 hazard 1397:21 hazards 1396:3 1398:8 1403:22 1403:25 1404:5,6 head 1372:10 1379:11 health 1314:15 1393:16,22 1394:1,15,22,25 1395:4,5,7,9,11 1395:16,18,21 1396:2,4,24 1397:16,20,23 1398:1,7,10,24 1399:1 1401:15	1403:9,11,17,20 1403:25 1404:15 1404:22 1405:19 1405:20 1406:25 1407:6 1408:2,9 1408:14,17 1409:6,21 1412:7 1413:20 1414:6 1415:17 1447:10 healthy 1317:5 1358:18 1399:11 hear 1375:17 1376:6 1393:7 1418:3 1435:9,10 1435:11 heard 1324:1 1327:5 1338:7 1339:14 1342:25 1346:14 1356:21 1376:9 1384:3 hearing 1351:13 1377:14 1380:18 1429:6 1430:23 1441:16 1443:8 hearings 1306:5 1311:4 1320:4 1349:24 1377:14 1379:14 1395:12 1441:18 1456:9 heart 1325:21 heaters 1402:12,15 heating 1402:9 heavy 1314:15 1426:20 1427:23 height 1327:8 held 1303:17 1377:15 help 1329:9,12 1330:23 1331:11 1336:20 1354:17 1394:21 1414:3 1449:17 1452:10 helping 1334:21 helpless 1450:7 helps 1368:7 1387:5 her 1309:19 1364:10,12,14,15 1388:10,15,18,18 1390:17 herd 1391:21 hereinbefore 1457:9 heritage 1406:19 herself 1388:9 hesitate 1419:7 high 1313:20 1314:3 1316:22	1317:14 1320:8 1353:16 1371:8 1402:5,11 1424:5 higher 1347:2,4 1350:9 1398:21 1399:22 1400:4 1402:14 1414:9 1427:7 1450:13 highest 1352:17 1369:25 highlight 1360:1 1396:1 highlights 1396:8 highly 1318:22 1348:2 Highway 1363:22 highways 1313:17 him 1369:12,14 hire 1343:17 1354:18 1405:24 1444:19 hiring 1358:7 historical 1389:11 history 1320:21 1399:7 1430:5 hits 1363:9 1409:11 hobby 1361:7 hogs 1311:16 1313:9 1316:11 1321:10,22 1324:4 1329:20 1336:22 1339:20 1358:23 1363:24 1366:22 1378:13 1403:5 1408:9 1430:8 1453:4 hold 1307:19 1319:10 1388:14 holding 1456:9 holistic 1316:1 home 1363:18 1373:21 1385:14 honour 1320:19 1384:11 honoured 1379:10 hope 1371:12 hoping 1418:5 1455:22 horses 1380:20 1391:20 hospitals 1364:5 hot 1334:6 1397:7 hour 1393:5 hours 1316:19 1359:19 1388:16 1399:11 1402:6 1428:12 1439:16	1439:18 house 1328:24 1452:24 housing 1328:21 1349:10 1361:21 1371:17 huge 1316:5 1319:19 1354:7 1355:2 1377:8,17 1378:19 1416:13 human 1350:9 1392:9 humanely 1392:14 humble 1448:19 humour 1384:22 hundreds 1329:16 1371:6,6 hungry 1447:24 husband 1311:20 1386:24 husbandry 1390:18 husband's 1311:13 Hutterite 1449:4 hydrogen 1397:13 1402:22 1405:2,4 1405:7,9,22 1412:10 1413:9 1413:14 hypersensitivity 1401:7 Hytek 1372:8 <hr/> I <hr/> idea 1322:14 1376:15 1411:3 ideas 1432:8 1452:22 identifies 1388:9 identify 1403:18 1433:25 identifying 1403:16 illness 1395:24 illnesses 1407:2 ill-conceived 1316:4 ill-will 1447:19 ILOs 1348:2 1427:3 imagine 1417:9 immediate 1399:8 1405:11 1436:24 immediately 1334:4 1363:3 immigrants 1373:13 immigration 1366:9 impact 1313:16 1324:13 1329:10 1329:18 1337:17	1338:4 1354:7 1398:7 1401:24 1404:22 1407:25 1433:15 impacts 1330:12 1394:19 1395:2 1408:17 impaired 1400:4 impending 1322:7 implement 1339:5 implemented 1329:9 1350:19 1417:4 implementing 1341:19 importance 1307:18 1319:25 1320:20 important 1311:16 1311:23 1312:3 1314:15 1315:22 1315:25 1317:4 1325:13 1326:14 1326:18 1336:18 1381:5 1395:8 1396:1 1397:15 1401:11 1417:6,8 1417:12 1418:14 1447:22 1448:3 imposed 1438:21 impressive 1370:18 improve 1325:5 1331:12 1361:25 1373:1 1454:21 improved 1362:1 1368:6 1373:6,10 1452:22 improvements 1307:14 improves 1334:16 1368:8 inability 1398:6 inadequate 1402:17 Inc 1327:25 1329:11 incentives 1351:2 incidence 1400:4 include 1306:24 1316:19 1398:2 1401:6 1403:15 1424:15 1452:3 included 1408:21 1421:6,19,22 1422:21 includes 1307:17 1314:21 1405:21 1408:1 1451:8
--	---	--	--	--

<p>including 1320:9 1381:17 1398:5 1399:19 1411:21 1415:16 1429:15 1437:3 1454:20</p> <p>inclusion 1331:25</p> <p>income 1449:24</p> <p>incorporating 1328:23</p> <p>incorporation 1323:15</p> <p>increase 1335:25 1364:4 1370:6,13 1392:1 1401:14</p> <p>increased 1315:13 1316:6 1322:7 1341:13 1362:4,7 1365:12 1370:11 1372:3 1391:4 1403:4 1420:16 1421:9</p> <p>increases 1316:7 1352:18 1371:20 1397:8 1400:7,12 1408:13</p> <p>increasing 1315:23 1329:25 1330:11 1356:25 1370:9 1396:13 1403:5 1438:6</p> <p>indeed 1311:3 1320:10</p> <p>independent 1407:20</p> <p>INDEX 1305:1</p> <p>India 1452:5</p> <p>indicate 1400:1,14 1400:17</p> <p>indicated 1306:13 1310:12 1393:2 1424:7</p> <p>indicates 1399:17</p> <p>indication 1437:8</p> <p>indicator 1412:6</p> <p>individual 1308:2 1316:25 1328:25 1395:21</p> <p>individually 1374:18</p> <p>individuals 1309:3</p> <p>induce 1400:22 1402:3</p> <p>induces 1399:12</p> <p>industrial 1394:16 1394:17 1396:2 1396:12,14 1397:3,3,11</p>	<p>1398:15 1399:2 1399:10,18,23 1400:2,3,7,11,18 1400:25 1401:3,5 1403:1,8,14 1405:18 1408:5 1409:4,24 1410:4 1415:1,4,11</p> <p>industries 1354:22 1372:23,25</p> <p>infinite 1413:3</p> <p>inflammation 1400:5</p> <p>inflammatory 1399:15 1402:4,7</p> <p>influx 1373:13</p> <p>inform 1383:9</p> <p>information 1309:8 1309:18 1323:22 1367:15 1381:16 1381:22 1387:3,5 1389:8 1403:24 1419:6 1429:23 1431:4 1433:4,6 1442:17</p> <p>informed 1389:7</p> <p>infrastructure 1364:6 1378:20</p> <p>inhalable 1397:13</p> <p>inhaled 1401:19</p> <p>initiate 1407:20</p> <p>inject 1428:11,11</p> <p>injected 1314:5 1335:13 1420:25 1424:8</p> <p>injecting 1454:9</p> <p>injection 1323:16 1454:12</p> <p>injury 1391:5 1395:25</p> <p>innocent 1448:23 1448:25</p> <p>inorganic 1332:2 1337:13</p> <p>input 1330:7 1430:12,17</p> <p>inputs 1313:7</p> <p>inquiries 1387:14</p> <p>insect 1401:6</p> <p>insert 1384:18</p> <p>inside 1397:11 1398:13 1402:3 1406:1</p> <p>insight 1418:13</p> <p>inspection 1314:22</p> <p>Install 1404:20</p> <p>installation 1347:14</p>	<p>installed 1333:23</p> <p>instance 1341:19 1347:25 1454:16</p> <p>instead 1334:2 1346:2 1448:10</p> <p>Instruct 1404:18</p> <p>instructor 1390:16</p> <p>intend 1395:25</p> <p>intense 1433:12</p> <p>intensive 1427:3 1446:9</p> <p>interaction 1412:2 1433:15</p> <p>interest 1422:13</p> <p>interested 1321:20 1338:5 1339:13 1352:7</p> <p>interesting 1375:23 1416:4,25</p> <p>interests 1406:20 1438:25</p> <p>interim 1414:9</p> <p>international 1396:22</p> <p>interpret 1419:12 1419:25</p> <p>intimidate 1419:19</p> <p>intimidated 1448:14</p> <p>introduce 1359:7 1369:3 1379:4 1393:18 1428:21</p> <p>invested 1351:1</p> <p>investigation 1306:17,24 1307:11</p> <p>investment 1316:20 1351:4</p> <p>investors 1329:13</p> <p>invited 1309:3 1409:3,4</p> <p>involve 1404:1</p> <p>involved 1328:16 1328:19 1372:13</p> <p>involving 1432:5</p> <p>Iowa 1322:2 1418:20</p> <p>irrespective 1315:16</p> <p>irritation 1399:19</p> <p>isolated 1316:22</p> <p>isolates 1412:4</p> <p>issuance 1431:4</p> <p>issue 1340:8 1375:15,15,15 1382:9 1389:11 1408:4 1413:5</p>	<p>1419:20</p> <p>issued 1441:10</p> <p>issues 1307:18 1308:3,14 1350:4 1356:22 1374:20 1395:12 1408:3 1411:6 1418:23 1419:22 1432:24 1440:4</p> <p>Italian 1360:6 1367:25</p> <p>Italians 1360:9,14 1368:18</p> <p>items 1432:3,19,20 1440:16</p> <hr/> <p style="text-align: center;">J</p> <hr/> <p>Jake 1362:12,13,13</p> <p>January 1443:1</p> <p>Jennifer 1390:15</p> <p>job 1329:6 1337:16 1372:7 1382:25 1383:1,10,10,20 1383:21 1392:18 1403:16 1448:11</p> <p>jobs 1320:4 1354:16 1362:20 1363:20 1363:25 1364:3,3 1364:3,5 1371:7 1403:23 1430:8 1451:18</p> <p>John 1304:13 1348:20,21,23,24 1349:4</p> <p>Johnson 1304:7</p> <p>joined 1311:19 1372:20</p> <p>Jonathan 1304:20 1446:15,17,19,22</p> <p>journal 1408:21</p> <p>journey 1392:13</p> <p>Joyce 1310:16</p> <p>judgment 1317:10</p> <p>June 1309:3</p> <p>jurisdiction 1440:3</p> <p>jurisdictions 1307:5 1307:6 1350:12</p> <p>justice 1408:2 1448:21,22</p> <hr/> <p style="text-align: center;">K</p> <hr/> <p>keep 1314:20 1326:12 1352:7 1359:19 1397:15 1402:12 1403:12 1413:16 1451:24</p> <p>keeping 1385:7</p>	<p>1407:9</p> <p>kept 1309:18</p> <p>key 1412:23</p> <p>Keystone 1325:11 1455:19</p> <p>kids 1388:2 1389:16</p> <p>kilometers 1429:12</p> <p>kind 1342:3,4 1344:23 1345:5 1346:25 1347:17 1347:20 1359:22 1367:13 1391:24 1405:14 1419:10 1436:14 1443:17 1445:6</p> <p>kinds 1415:16 1440:4</p> <p>Kingdom 1373:19</p> <p>Kleefeld 1429:17</p> <p>Kleinsasser 1304:20 1446:15 1446:17,18,19,22 1446:23 1452:16 1452:18 1453:6 1453:11 1454:2,4 1454:7,8,10,14,18 1454:23 1455:7 1455:25 1456:2</p> <p>Klippenstein 1304:12 1327:16 1327:18,18,19,22 1327:24 1337:23 1338:1,10,21,24 1339:9,23 1340:13,16,17,22 1341:5,8,18 1342:10,16,22 1343:6,13,16,21 1343:23 1344:5 1344:10,21 1345:2,17,23 1346:2,6,9,18,21 1347:15 1348:4,8 1348:14,19</p> <p>knee-jerk 1382:15</p> <p>knew 1369:12</p> <p>knifed 1454:11</p> <p>knowing 1409:15</p> <p>knowledge 1392:1 1407:21 1413:2</p> <p>known 1362:13 1413:14</p> <p>knows 1312:24 1382:14,14</p> <p>Kroeker 1304:13 1348:20,21,23,23 1348:24 1349:2,4</p>
--	---	--	---	---

1355:7,11,16,21 1356:1,4,9 1357:4 1357:8,11,18,21 1357:25 1358:6 1358:15,24 1359:2,5	1415:10 1429:15 1432:10 1451:23 1452:21 1454:24 largely 1358:14 larger 1338:11 1339:4 1408:18 1415:15,15,20,21 1421:15,16 1435:22 1441:24 largest 1380:17 1438:3 1446:25 1449:23 laser 1434:22 last 1331:19 1349:22 1354:13 1357:14 1360:17 1364:1,10,18 1367:10 1369:23 1375:2 1377:13 1381:17 1393:5 1409:10,25 1414:11 1443:19 1447:4 1451:7 1456:3 late 1309:3 1311:13 1332:2 1363:14 later 1332:23 1334:1 1406:25 1417:3 1421:14 latter 1368:19 law 1336:1 1392:15 laws 1407:13 1416:18 Layman 1366:6 leach 1438:15 lead 1413:19 leader 1390:18 leaders 1373:3 leadership 1319:23 leak 1346:3,3,3 leaks 1345:25 learn 1329:5 1356:10 1369:22 1389:4 leased 1360:8 least 1310:6 1316:16 1354:14 1355:18,22 1399:17 leave 1310:7 1336:6 1354:24 leaves 1450:21 leaving 1356:14 led 1364:12 left 1317:11 1326:4 1328:10 1406:16 left-hand 1425:1	legacy 1384:11 legislated 1395:14 legislation 1403:10 1405:19 1431:7 1437:25 1442:22 legislative 1394:21 length 1442:4,5 lengthy 1350:1 less 1328:24 1331:13,20 1332:18 1334:8 1334:11 1344:15 1344:15 1347:3 1358:11 1365:22 1398:15 1402:14 1415:12 lesser 1442:20 let 1310:16 1351:5 1379:12 1383:20 1393:6 1434:18 letting 1334:2 1346:2 1431:25 let's 1341:20 1343:25 1359:18 1363:2 1451:2,4 1451:24 level 1335:19 1376:23 1406:6 1413:10,24 1441:17 1447:22 levels 1331:4 1353:7 1398:21 1402:11 1414:5,7 1421:3,4,11 1422:3,23 1426:8 1426:15 1427:7 1451:21 leveraging 1352:9 LGD 1363:2,7,10 1363:20,22 liability 1451:16 licensed 1420:24 lie 1447:11 life 1363:16 1382:23 1388:7 1388:15 1392:9 1392:10 1412:3 1447:5 lifestyle 1382:22 lifted 1354:19 lights 1364:1 like 1315:2 1317:19 1324:23 1325:24 1331:8 1334:22 1337:20 1339:20 1341:1,19,23 1342:21 1344:18	1345:19 1346:23 1347:25 1357:4,8 1363:23 1367:13 1368:17 1370:12 1374:15 1376:4,7 1384:21 1391:20 1393:6,13 1394:12 1409:8 1411:25 1413:14 1416:22 1418:3 1423:21,21 1427:4 1430:20 1431:3 1440:16 1444:19 1447:9 1447:22 1450:3,6 1454:21 1455:2,9 likely 1347:15 1407:2 limit 1333:22 1355:3 1397:20 1412:10 limitations 1397:25 1398:2 1411:11 1411:12 limited 1308:4 1361:16 1362:17 limits 1353:12 1397:24 1398:4 1398:11 1404:24 1406:21 1411:10 1411:13,18 1432:12 1440:14 line 1406:22 1419:5 1443:3 1452:19 liner 1391:2,12 lines 1313:5 link 1310:2 1351:15 linked 1438:9 linking 1438:13 liquid 1314:2 1331:4 liquids 1331:2 1342:18 Lisa 1457:5,13 list 1380:1 1393:2 listed 1440:16 listen 1385:4 1440:7 listening 1447:16 literature 1396:22 little 1320:14 1321:1 1324:17 1328:22 1337:5 1339:3 1340:8,23 1355:8 1362:10 1362:20 1369:14 1384:22,24 1385:10 1414:24	1436:6 live 1316:16,24 1317:1 1337:19 1380:2 1388:8 1426:19 1449:6 lived 1388:7 1447:4 1447:5 livelihood 1312:21 1365:9 1383:5 1392:12 1447:13 1449:25 lives 1448:8 living 1317:2 1361:15 1382:21 1388:24 1448:17 1449:23 load 1331:17 1337:6 1391:2,3 loaded 1392:4 loading 1351:21 1353:3 local 1312:13 1329:19 1365:13 1369:19 1407:21 1432:21 1438:18 1438:24 1439:1 located 1311:14 1334:10,14 1427:15 1429:11 location 1361:21 locations 1340:20 1433:19 Loewen 1377:24 logistical 1347:23 lone 1391:25 lonely 1317:19 long 1312:17 1315:12 1316:19 1319:12,21 1349:19 1364:8 1380:21 1406:20 1414:4 1442:2 longer 1432:20,23 1440:3 long-term 1353:5 1394:25 1396:24 look 1326:24 1362:10 1373:24 1409:15 1410:20 1411:6 1416:5 1434:12 1442:10 1442:16 1445:18 1445:21 1455:17 looked 1455:24 looking 1344:12 1348:12 1354:8 1356:22 1383:2
---	---	---	--	---

1411:2 1417:9 1432:4 1436:11 1441:3 1455:23 looks 1384:15 1434:19 loopy 1387:21 loose 1328:21 1391:17 lose 1354:15 losing 1325:25 1354:16 loss 1356:6 lost 1334:5 1356:7 1357:16,19 1358:2 1368:18 1453:9 lot 1326:23 1327:6 1333:16 1340:8 1341:22 1344:23 1347:23 1348:5 1354:17 1362:19 1362:22 1363:18 1364:20 1366:16 1366:23 1367:16 1368:8,13,18 1377:25 1378:20 1387:1,4,17,23,24 1388:1 1415:23 1436:7 1441:18 1441:24 1442:5 1443:14 1444:20 1446:3 1447:9,19 1452:23 1453:12 1455:2 lots 1362:18,21 1419:1 1436:17 1445:20 love 1367:17 1449:13 1453:13 1453:16 lovely 1367:8 Loveridge 1304:17 1393:20,21 1394:5,11 1408:23 1409:8 low 1354:1 1360:25 1363:11 1397:16 1403:12 1422:4 1426:9 lower 1331:4 1414:8 Ltd 1311:10 lucky 1390:23 Ludwig 1304:17 1393:24,25 1394:7 1409:1,23 1410:12,24	1411:16 1412:15 1412:20,25 1413:13 1414:19 1415:6,25 1416:3 1417:5,11 1418:7 1418:11,21 1419:14 lumbeyards 1371:19 lung 1400:5,20 lungs 1399:15 1401:19 <hr/> M <hr/> made 1308:5,7,7 1313:2 1341:11 1342:13 1362:2 1414:10,25 1430:25 Maendel 1420:5 Magnusson 1375:2 main 1318:8 1327:10 1352:21 1355:23 1370:17 1384:23 mainly 1344:25 maintain 1332:3 1372:4 1404:18 maintained 1431:17 maintaining 1315:23 maintenance 1334:3 1345:18 1345:20 1371:18 major 1447:23 majoring 1328:12 majority 1319:18 1323:4 1448:6 makes 1312:12 1317:24 1331:22 1333:6 1353:3,7 1370:16 1372:16 1433:7 1450:7 making 1310:9 1311:15 1367:1 1373:20 1384:2,3 1415:16 1430:18 malaise 1399:13 males 1333:2 malfuction 1402:16 man 1380:20 manage 1307:5 1331:6 1371:10 1451:4 managed 1330:9 management	1318:22 1332:14 1332:16 1339:24 1349:25 1372:7 1430:15 1432:24 1438:1 1444:3 1455:6 Manager 1349:4 managers 1430:14 managing 1306:22 1430:22 mandate 1308:3,13 1407:25 mandates 1379:22 Manitobans 1307:1 1307:18 1406:20 Manitoba's 1380:16 1429:25 1429:25 1430:1,2 manner 1306:23 1307:6 1451:25 manufacture 1451:14 manufacturers 1446:25 1450:4 1451:19 manufacturing 1370:19 1376:16 1377:20 1378:4 1412:22 1417:14 manured 1337:8 manure-deficit 1316:5 map 1314:9 mapping 1436:3,15 1437:1 March 1307:21 Marg 1310:18 1311:7 Margaret 1304:11 1310:20,22 marginal 1360:14 1362:2 margins 1344:15,15 Marg's 1353:1 mark 1311:15 MARKED 1305:3 market 1313:10 1330:4,5,11 1337:24 1355:1 1362:17 1420:18 1420:19 marketed 1360:19 1368:1 marketing 1360:4 1360:16 mask 1402:6 masses 1448:5	Masters 1328:18 material 1448:8 1453:23 materials 1383:8 matter 1314:14 1338:18 1361:4 1381:10 1385:1 1396:15 1397:14 1401:4 1409:17 1423:2 matters 1309:21 1385:3 1439:21 maximize 1335:13 1423:1 maximum 1331:6 may 1307:14 1308:5,16,18,19 1309:10 1315:4 1318:10 1319:4 1322:13 1323:6 1326:16,16 1345:7 1353:2 1357:1 1358:17 1370:5 1374:20 1391:25 1396:23 1400:21 1401:14 1401:16 1402:9 1402:14,17 1405:4,9 1410:17 1412:5,5,13 1417:18 1430:11 1432:14 1437:11 1449:18 maybe 1363:16 1375:5 1378:9 1390:7,9 mayor 1368:25 1369:5,7 1374:8 1374:13,25 1375:1,1 1379:2 mayors 1374:5 meal 1389:18 mean 1345:3,22 1358:9 1366:2,4 1366:15,18 1367:1 1368:7 1377:11,16,21 1378:15,17 1386:12 1387:19 1410:1 1415:20 1415:20,21 1416:11 1422:12 1434:14 1439:5 meaning 1312:6 means 1336:4 1354:15,16 meant 1443:4	measure 1411:20,24 1411:25 measured 1412:5 measures 1306:21 1333:21 1350:14 measuring 1411:19 1438:5 meat 1316:13 1411:6 mechanical 1404:9 mechanism 1454:9 media 1325:19 1366:3,3 meet 1309:15 1335:25 1336:2,8 1351:4 1361:1 1384:10 1391:18 meeting 1307:23,24 1309:17 1374:19 meetings 1307:2,19 1307:21 1308:1 1308:23 1309:17 1324:24 1385:16 1408:6 member 1304:5,6 1372:22 members 1308:19 1349:2 1385:25 1395:21 membrane 1399:19 membranes 1399:14 men 1400:24 mention 1345:14 1346:13 1364:9 1441:4 mentioned 1324:24 1341:14 1342:7 1356:5,18 1367:7 1414:13 1440:12 1441:5 1442:10 message 1325:18 1326:6 messages 1455:21 met 1364:8 1414:2 meter 1333:25 method 1424:11 methods 1438:5 metres 1346:11 MFL 1395:7 might 1313:3 1358:6 1366:12 1414:7 mighty 1384:15 mike 1420:5 1435:6 1435:6 mile 1313:13
--	---	---	---	--

<p>1437:15 1443:10 1443:14 miles 1384:17 milestone 1360:23 milk 1390:4 milking 1389:3 mill 1313:18 1314:1 million 1312:9 1329:15,16 1355:18,22 1422:5 1425:13 mind 1337:1 1374:25 1413:16 minds 1389:6 mineral 1401:7 minimize 1397:16 1403:17 1408:16 1420:23 1431:18 minimizing 1404:6 Minister 1306:16 1306:19 1307:13 1308:13 1326:22 1445:12,20 1446:5 minority 1317:3 1452:11 minted 1379:21 minutes 1308:5 1379:12 misconceptions 1333:16 misguided 1318:6 misinformed 1318:7 missed 1357:6 missing 1449:16 Mitchell 1429:16 mixed 1311:8 1352:3 1420:14 mixture 1412:12 mode 1344:11 moderate 1401:20 modern 1365:6 1398:12,15 modest 1363:18 moisture 1313:20 1314:3 molecules 1398:14 moment 1312:21 moments 1384:24 money 1318:24 1368:18 1376:7 monitor 1333:9,12 1335:1,4 1346:5 1433:6 monitored 1318:22 monitoring 1413:12</p>	<p>monitors 1319:1 monoxide 1402:18 1402:18 month 1452:5,6 months 1315:14 1349:22 1359:18 1359:18 1377:14 1409:11,18 morally 1449:2 moratorium 1318:12 1354:6 1407:16 1447:18 1448:20,24 morning 1400:8 1456:8,10 mortalities 1433:2 1439:22 mortality 1440:2 most 1308:4 1312:23 1313:14 1317:4,4 1319:11 1323:6 1338:11 1340:10 1348:1 1350:12 1352:23 1362:7 1387:20 1390:23 1392:12 1394:18,18 1397:21 1399:3 1401:4 1405:25 1406:25 1432:16 1435:3,19 1445:3 1449:23 mostly 1344:22 1417:16 moulds 1401:6 move 1341:24 1389:2 moving 1313:23 1347:18 1354:22 1384:4 1417:18 mucous 1399:19 1401:18 multiple 1398:7 1412:3 municipal 1349:24 1444:7 municipalities 1352:19,25 1370:8 1372:23 1374:15 1381:21 1429:20 1438:19 1441:25 1445:3 1445:17 1446:8 municipality 1311:9 1428:25 1429:6,11,18,19 1430:6,21 1431:6</p>	<p>1431:9,12 1433:7 1433:12,19 1435:17,18,21,25 1436:1 1438:17 1439:8,11,19 1441:12,18 1444:14,17 municipality's 1440:3 must 1310:6 1313:7 1313:8 1372:1 1395:6,18 1406:14 1431:17 1438:5 1445:2 1453:17 Myself 1363:7</p> <hr/> <p style="text-align: center;">N</p> <hr/> <p>name 1306:7 1310:19,20 1311:7 1327:16 1327:24 1348:21 1359:9,14 1364:9 1389:21 1393:20 1393:24 1420:8 1428:23 1429:7 1446:16,22 named 1448:11 narrow 1424:17 National 1379:21 natural 1312:3 1316:1 1344:18 nature 1317:25 1389:24 neatly 1384:14 Nebraska 1322:2 necessarily 1338:3 1339:20 1415:7 1421:8 necessary 1307:14 1432:12 1440:15 1443:6 need 1316:6 1322:21 1332:18 1332:22 1336:17 1339:22 1341:2 1347:7 1350:19 1350:20 1351:10 1353:10,11 1364:5,5,6 1385:3 1385:16 1390:3 1403:23 1407:5 1414:8 1417:15 1418:2,2 1419:5 1448:9 1451:15 1455:17 needed 1313:7</p>	<p>1314:1 1381:22 1439:23 needs 1308:6 1326:21 1332:13 1333:3,5 1350:25 1351:1 1364:2 1384:10 1394:23 1403:7 1405:17 1435:11 1436:11 1452:11 negative 1401:15 neighbour 1421:18 1453:14 neighbouring 1370:8 1432:15 neighbours 1311:2 1330:24 1334:18 1334:19,22,22 1345:15 1376:3 1388:21 1403:1 1428:7 1441:16 neither 1365:3 net 1332:6,7 1363:4 Netherlands 1413:18 1418:19 never 1340:25 1378:14,14 1388:7,10,15 1392:4,9 1413:1 1421:24 1423:20 1447:5 1451:5 1454:25 1455:1 new 1324:11 1328:8 1331:10 1333:11 1336:2,17,21,25 1337:5,16 1341:3 1348:10 1349:15 1350:4,15,19,24 1350:25 1351:4,6 1354:6 1355:24 1355:24 1361:19 1373:15,19 1374:19 1377:15 1400:22 1414:5 1426:5,22 1428:10 1429:17 1431:10 1432:4 1435:24 1436:24 1442:22 1444:5 1445:3,5,9 1451:1 1451:8 1452:21 1453:2 newer 1416:1,5,8 newly 1379:21 News 1360:21 next 1348:20 1353:24 1359:6</p>	<p>1361:4 1368:25 1388:19,24 1389:18 1421:5 1430:12 1441:5 1446:15 1452:5,6 nine 1307:24 1349:22 1442:2 1456:10 NIOSH 1411:14 1412:10 nitrogen 1315:8,12 1322:4,8 1332:10 1332:12,13 1333:7,10 1335:2 1335:5,6,21 1336:13 1347:2,3 1421:3 1438:9 Niverville 1429:14 noble 1448:17 nobody 1355:11 non-farming 1380:4 1388:23 non-livestock 1318:21 non-renewable 1353:21 1451:13 noon 1456:10 normal 1309:24 north 1350:12 1375:16 1435:16 northern 1427:22 1434:25 nose 1399:14 notably 1399:21 note 1310:8 1342:13 1375:23 1421:23 1429:22 noted 1337:23 1350:6 1376:18 1429:7 1432:19 notes 1457:8 nothing 1317:8 1455:9 notice 1350:22 noticeable 1421:11 noticed 1410:19 1424:9 1426:6 1443:10 notification 1432:14 1441:16 noting 1433:21 Notwithstanding 1441:21 nowhere 1419:4 number 1306:12 1307:24 1318:9 1328:1,15 1329:9</p>
--	--	---	--	---

<p>1331:24 1333:21 1361:17 1362:22 1366:6 1370:12 1375:2 1376:20 1381:15 1408:14 1409:16 1415:14 1418:2 1420:16 1421:12,20 1422:8,10,17,22 1424:16 1426:24 1437:2,4,12,13,16 1437:17,21 1442:23 1443:16 numbered 1421:14 numbers 1321:2 1370:18 1376:21 1377:1,12 1383:17 1403:5 1410:4 1415:8 1418:2,10 1421:14 1422:14 1424:21 1430:4 1438:7 numerous 1320:6 nurses 1393:25 nutrient 1315:11 1316:2 1331:16 1335:18 1343:9 1422:2,23 1424:22 nutrients 1331:13 1332:17,19,20,22 1333:4,7 1353:23 1371:10 1421:1 1424:14,16,24 1425:2,11 nutshell 1384:14</p> <hr/> <p style="text-align: center;">O</p> <hr/> <p>oath 1308:10 1394:4 oats 1423:18 objectives 1414:17 obviously 1375:8 1378:19 1423:11 1426:8 occasions 1377:13 occupation 1398:21 occupational 1393:16,22 1394:1 1395:4,7,9 1395:16 1396:3 1396:17 1397:24 1398:3 1404:24 1407:1,23 1409:21 1411:10 1411:13</p>	<p>occupational/envi... 1408:2 occur 1434:3 occurs 1399:23 odour 1330:23 1375:7,8 1420:23 1428:4 1431:22 off 1310:5,6 1340:4 1342:18 1344:1 1364:1 1453:15 offered 1362:19 office 1385:14 Officer 1428:24 1429:8 officers 1392:18 offices 1372:10,10 1385:15 offset 1351:3 often 1318:4 1344:17 1363:17 1363:24 1376:6 1398:20 1403:22 1415:21 oh 1392:24 1419:23 1420:5 1422:15 1425:12 1434:11 OHC 1395:23 oilseeds 1311:12 okay 1323:21 1344:7 1346:1 1357:10 1358:3 1368:21,21 1375:18 1412:8 1423:14,19,23 1425:12 1429:4 1434:18 1435:15 1436:18 1439:3 1440:9,23 1455:4 1456:4 old 1359:22 1449:8 1451:8 older 1332:18 1398:16 OMNI 1414:16 once 1313:24 1343:22,24 1344:6,7 1354:18 1356:14 1364:4 1399:12 1444:2 onerous 1350:1 ones 1378:1 1384:7 1384:10 1386:12 1398:16 one-third 1321:11 online 1310:1 only 1313:24 1315:6,20 1316:6</p>	<p>1322:17 1324:2 1332:23 1337:7 1338:19 1342:24 1350:12 1351:17 1366:22 1372:11 1381:24 1396:23 1399:11 1404:13 1406:21 1413:3 1433:20 1441:10 1449:18,20 Ontario 1376:10 1379:20 on-farm 1313:18 open 1308:1 1444:9 opened 1362:4 opening 1306:11 operate 1311:8 1328:3 1335:7 1376:11 1420:14 operating 1328:1 1445:4 operation 1314:24 1321:4,7 1323:10 1323:11 1324:13 1324:15 1325:2 1328:16 1339:1,1 1339:8 1415:7 1430:22 1432:25 1433:21,22 1440:17 1443:12 1453:7 operations 1325:20 1329:8 1338:13 1338:19 1339:6 1340:11,19 1351:3 1364:21 1396:12 1408:12 1408:13,18 1415:22,24 1427:3 1431:8 1432:5,6,17 1433:17,18 1435:22 1436:7 1437:3,14 1441:11,15,19,24 1442:10 1443:4 1443:17 1446:9 opinion 1365:15 1366:25 1423:2 1443:25 1448:20 1450:2 Opponents 1351:14 opportunities 1325:19 1372:7 1408:15 opportunity 1308:21 1311:3</p>	<p>1320:11 1331:5 1372:13 1388:20 1438:22 1456:3 opposed 1366:13 opt 1410:9 optimistic 1317:25 option 1315:10 options 1307:12 1347:1 order 1308:17,18 1336:2,8 1337:13 1347:10 organic 1312:3 1314:14 1316:1 1398:5 1399:21 1401:9 1411:22 1451:11 1453:19 1453:23 organics 1453:20 organisms 1400:16 organization 1322:15 1372:21 1379:13 1383:14 1385:11 organizations 1386:11 originally 1367:17 OSHA 1411:14 1412:10 others 1310:14 1366:10 1370:24 1413:15 ourselves 1446:4 outbreak 1381:20 1381:23,24 outbreaks 1381:23 outdated 1445:14 outputs 1313:8 1430:13 outside 1351:22 1373:13,14,14 1406:3 over 1309:23 1312:7 1315:4 1319:11,17,20 1326:13,13 1329:15,15 1331:3 1351:21 1354:12 1357:14 1361:16 1370:10 1385:18 1392:4 1435:24 1444:15 1450:22 1453:20 overall 1437:4 oversees 1387:12 overview 1418:13 own 1311:8,21</p>	<p>1313:15 1314:24 1315:1 1318:24 1324:3,19 1326:7 1326:7,8 1328:16 1336:9 1345:4 1347:21 1375:16 1391:24 1420:13 owned 1334:11 1360:6 owner 1340:2 1361:2 owners 1368:20 1403:8,14 1404:4 1405:17,23 1415:1 1416:23 1417:8 oxygen 1405:12</p> <hr/> <p style="text-align: center;">P</p> <hr/> <p>pace 1358:19 1453:1 packet 1421:4 packing 1411:6 page 1304:10 1337:23 1360:20 1421:5 1449:16 1449:19 pages 1442:4,5 1457:7 painful 1317:12 1363:12 painted 1448:4 panel 1306:9,10 1307:18 1308:3 1308:19 1349:3 1426:22 1447:16 paper 1396:7 1447:3 papers 1399:1 1418:6 par 1322:3 parameters 1413:9 1413:10 paramount 1411:24 parcels 1360:18 Pardon 1424:2 part 1307:20 1308:4 1311:16 1315:25 1322:15 1325:13 1355:23 1371:1 1395:13 1396:6 1424:19 1427:23 1434:25 1434:25 1436:5 participate 1311:4 participation 1308:15 1372:25</p>
--	--	--	--	---

<p>particles 1397:1 1401:3,16,21 particular 1341:14 1356:7,8 1403:23 1409:12 1424:23 1456:6 particularly 1322:12 1364:19 1418:14 particulate 1397:14 Parties 1309:3 parts 1316:14 1321:23 1401:6 1406:14 1422:5,6 1422:7 1425:13 1435:1 part-time 1312:1 pass 1330:9 1428:12 1449:11 passing 1311:20 past 1315:6,14 1319:11,17 1369:19 pasture 1437:19 pastured 1340:9 path 1328:9 pattern 1403:2 pause 1336:24 1337:1,4 1353:10 1354:9,11,15,19 1355:14 1358:5 1358:14 paving 1384:7 pay 1334:18 1344:24 1347:13 1364:14 paying 1353:2 1371:7 payroll 1329:14 peaked 1358:11,17 pencil 1384:16 Penner 1349:4,5,12 per 1340:18 1343:22,24 1350:9 1361:6 1362:6,19,22 1422:5,25 1424:16 1425:13 1425:23 1426:2 perceiving 1409:14 percent 1315:13 1317:3,7 1319:4,8 1322:9 1325:2,3,5 1326:4,4 1330:6 1334:8,12 1336:22,22 1337:7,24</p>	<p>1339:16 1354:8 1355:9 1358:25 1359:1 1363:1 1365:18,21,24,25 1367:18,20 1370:5,13 1399:24 1429:24 1430:1,2 1450:18 1450:22 1455:12 1455:12 percentage 1358:20 1358:22 1385:23 1396:13 1450:13 perfect 1430:10 perhaps 1413:18 1414:7 1422:12 1422:13 period 1309:5 1350:22 1414:3 perishable 1450:5 permits 1330:21 1349:23,24 1350:15 1408:4 person 1310:17 1364:1 1375:24 1388:8 personally 1325:1 persons 1309:16 perspective 1389:10 petroleum-based 1315:8,10 1322:4 pets 1389:20,25 1390:1 PFRA 1431:13 phase 1332:14,20 1333:1 1338:7,25 phenomenal 1367:20 1390:18 Philippines 1452:4 phlegm 1400:8 phone 1309:15 1376:1 phones 1310:4 phosphate 1324:7 1324:12 1337:13 1341:3 1423:16 1426:8 phosphorous 1319:3,5 1324:19 1331:4,21 1332:2 1332:4,19 1333:8 1333:13 1336:15 1337:6,10,14 1340:1,6 1341:20 1347:3,4 1348:10 1351:21,23 1353:7 1421:3,11</p>	<p>1422:5 1424:5 1425:17 1426:6 1438:10,10,14,15 1445:21,22,25 1450:18 1454:17 1454:21,24 photocopier 1449:18 photograph 1436:3 photos 1380:13 phytase 1324:7 1331:18 1338:16 1338:22 1423:20 1454:16,21 phytate 1331:21 pick 1391:19 1419:3 picked 1418:12,15 1421:5 1426:12 picture 1315:4 1326:18 1344:12 1455:24 pictures 1381:12 1382:2 piece 1343:25 1447:3 pig 1361:14 1388:11 pigs 1329:5,16 1332:11,18 1334:1 1396:13 1420:18 piled 1320:7 pillar 1373:23 pillars 1370:17,20 1376:17 Piney 1363:3,4,10 1363:11,20,20,23 1363:24 1365:20 pink 1433:20 1434:5 1436:15 pit 1334:2 1405:5,5 1405:16 1406:4,8 pits 1406:1 place 1306:21 1307:23 1318:16 1364:2 1374:7 1414:3 1457:9 placed 1370:2 1394:23 1439:23 placement 1439:24 places 1371:7 1447:25 1455:15 plain 1317:9 1415:2 plan 1374:14,16 1407:7 1431:10 1431:15,16,24</p>	<p>1432:7 1435:19 1438:13 1444:21 1444:23 1445:9 1445:13 planning 1335:19 1431:3,14 1432:22 1439:8 1443:2 1444:1,5 1444:23 1445:3 Plans 1349:25 plant 1335:13 1366:7 plants 1410:4 1411:7 plate 1337:18 play 1395:18 Playgreen 1327:25 1329:11,13 plays 1377:8 1383:7 please 1309:23 1310:16,18,24 1348:21 1355:5 1359:7 1369:3 1379:4 1393:6,17 1393:18 1394:9 1420:7 1423:9 1433:20 1436:19 1452:10 1454:18 pleased 1387:22 plow 1384:16 plumbers 1356:13 plus 1329:16 pneumonitis 1401:8 point 1313:22 1341:11 1364:18 1390:8 1413:23 1422:14 1429:24 1434:21 1440:10 1447:22 1448:14 pointer 1434:21,22 poisoning 1402:19 police 1390:23 policies 1329:24 1341:12 1407:14 policy 1363:21 1444:21 1445:4 polite 1389:23 political 1313:4 1318:8 1319:22 1350:14 1378:16 1448:7 politically 1312:18 1312:20 politics 1336:22 1369:16,20 pollute 1449:10 polluters 1448:12</p>	<p>pollution 1450:11 1450:14 ponds 1428:9 poor 1361:12,14 1397:6 populated 1348:2 1436:6 population 1317:3 1317:8 1337:2 1352:18 1363:4,6 1370:4,6,7,10,13 1372:8,12 1374:10 1429:25 1430:1,2,3,6 1455:12 populations 1350:9 1352:15 Pork 1386:3 Portage 1327:10 posed 1382:1 poses 1395:5 position 1316:5 positioning 1314:8 1323:23 positive 1371:13,21 1374:1 1382:17 1383:14 possibilities 1413:3 possibility 1391:5 possible 1312:22 1313:6,12 1397:16 1403:13 possibly 1336:14 Post 1406:2 posted 1309:2 potash 1424:20 potassium 1424:19 potential 1395:2 1396:16 1398:18 1412:12 1415:15 1432:1 1434:2,4 1436:9 poultry 1349:6 1358:22 1430:1 pounds 1420:19 1424:16 1425:23 1426:1 powerful 1383:18 1383:18 1432:16 powers 1444:2 practice 1309:24 1332:23,25 1338:9 1339:24 1353:22,25 1364:23 practices 1311:5 1314:7,21</p>
--	---	---	---	---

1338:15,17 1349:16 1351:9 1373:2 1408:11 prairies 1316:5 1383:22 praise 1448:10 preacher 1369:11 precautionary 1407:10 precision 1314:10 predicting 1355:9 prediction 1316:13 predisposition 1412:6 prefer 1336:6 1444:2 premature 1448:20 prepare 1456:7 prepared 1307:8 prepares 1313:18 preparing 1326:9 prescriptive 1314:25 present 1311:18 1364:12 1396:21 presentation 1308:2 1308:9,15,17,20 1309:22 1310:15 1315:3 1320:12 1324:25 1327:14 1344:11 1349:7 1367:22 1393:6 1394:14,14 1420:4 1424:8 1429:5 1443:9 1455:10 1456:2,4 presentations 1304:10 1306:12 1306:14 1308:4,9 1308:12 1309:12 1310:10,12 1385:17 1393:3 1393:14 1456:7 presented 1431:11 presenter 1308:6,20 1367:7 presenters 1308:21 1308:22 1311:2 1456:6 presenting 1447:2 presents 1310:22 1327:19 1348:24 1359:11 1369:7 1379:7 1394:5,7 1420:10 1429:1 1446:19 President 1327:25	press 1360:22 1366:3 pressure 1392:5 1402:5 pretty 1386:7,10 1424:5 1443:11 1452:18 prevalence 1403:4 prevalent 1401:4 1411:22 prevent 1381:23 preventing 1354:1 1405:21 previous 1320:6 1413:22 previously 1393:2 1444:9 pre-existing 1400:22 price 1330:5,10 1337:24 1345:6 1361:4 prices 1322:7 1361:5 primarily 1316:12 1321:22 1359:25 1418:12 primary 1319:23 1320:20 principle 1407:10 prior 1308:8 1353:9 1405:6 1421:23 1426:12 1443:1 priority 1312:19 1313:2,5 private 1328:15 Pro 1372:9 proactive 1382:13 1382:14 1383:13 1384:9 probably 1320:25 1324:15 1338:12 1339:2 1340:25 1340:25 1348:1 1357:15 1358:24 1368:16 1394:18 1410:24 1412:2 1413:3 1415:13 1441:22,23 1442:2 1443:20 1443:22 1446:7 problem 1325:11 1351:17,23,24 1353:8 1397:19 1403:19 1407:5 1408:24 1409:14 1419:10 1454:25	1455:1 problems 1354:18 1356:12 1396:10 1397:20 1398:10 1398:24 1408:14 1409:7 1412:7 1451:9 procedures 1314:20 1404:2 proceed 1306:12 1436:18 proceeded 1360:13 PROCEEDINGS 1303:9 1393:9 1456:12 process 1322:15,16 1325:13 1331:23 1332:15 1350:1 1350:20 1378:13 1395:14 1401:19 1403:15 1430:18 1432:18 1440:24 1441:2 1442:25 1444:8 processed 1372:3 processes 1432:13 1443:6 produce 1321:16 1329:22 1353:21 1383:8 1448:4 1451:20 1452:17 1452:18 produced 1372:1 1373:12 1430:8 1437:5,17 producer 1312:11 1312:12 1319:19 1349:19,23 1351:19 1438:3 1447:24 producers 1314:19 1318:3,18,19 1319:23 1322:1 1322:19 1325:12 1326:1,11 1349:6 1350:5,6 1352:5,9 1352:23 1358:22 1379:17 1381:21 1381:25 1382:5 1383:9 1385:20 1386:4,6 1406:11 1447:20 1448:2 1455:20 producing 1317:11 1317:14 1326:4 1390:2 product 1315:24	1329:23 1331:18 1344:14,18 1347:11,12 1392:11 1425:25 1453:19 production 1303:3 1306:5,18 1307:5 1307:15 1311:5 1311:17,22 1312:2,5 1314:20 1315:7,18,20 1316:2,6,7,9 1317:6,21 1318:5 1318:11,13 1319:25 1320:8,9 1320:21 1328:1 1331:23 1337:3 1350:7 1354:3 1396:10 1421:9 1429:22 1430:7 1430:10,13,15,22 1430:24 1431:7 1432:6 1438:17 1438:20 1451:21 productive 1362:3 1368:14 productivity 1315:24 1362:8 products 1450:5 1453:3 professionals 1405:24 profoundly 1394:18 program 1314:18 1314:19 1322:13 1322:22 1334:3 1345:19,20 programs 1329:9 1366:9 1373:1 prohibition 1432:12 1440:14 projecting 1354:22 promising 1308:10 promote 1395:20 prone 1400:24 propane 1402:10 propel 1360:23 proper 1335:1 1341:21 properly 1333:4 1404:17 1423:3 1430:19 1451:14 properties 1361:1,4 1361:7,17,18,20 1362:17 1364:25 property 1360:4,6,9 1360:12,18	1361:13 proportion 1399:5 proportional 1351:25 proposal 1432:2 1436:25 proposed 1408:1 prospective 1361:7 prosper 1373:7 prosperous 1352:10 protect 1394:21 1398:1 1404:15 1407:5,14 1415:17 1452:11 protected 1407:19 Protecting 1406:18 protection 1306:20 1329:7 1392:18 protects 1401:19 1408:9 protein 1332:9,18 proud 1448:15 prove 1373:2 1448:25 1451:3 proven 1373:8 1431:21 1438:4 1438:15 1448:23 provide 1307:14 1309:4 1311:25 1321:7,10 1335:9 1336:19 1351:2 1358:21 1372:11 1403:23 1432:11 1437:8 1440:13 provided 1308:6 1312:3 1332:21 provides 1329:21 1339:15 1372:6 providing 1320:18 1334:20 1355:24 province 1307:2,16 1311:6 1312:14 1316:15 1318:12 1319:8 1323:1 1346:15 1348:3 1351:22 1352:14 1352:18 1353:14 1372:3 1374:6 1379:19 1380:12 1385:18 1409:17 1429:20 1431:11 1439:12,15 1441:25 1443:15 1445:12 1447:1 1447:20 1457:6 provinces 1386:13 1450:15
--	---	---	--	---

<p>province's 1318:15 province-wide 1311:4 provincial 1379:19 1407:11 1433:10 1437:25 1440:18 1442:21 provision 1414:9 provisions 1308:7 proximity 1436:24 Prudential 1359:16 public 1306:25 1307:1 1308:14 1308:23 1309:12 1309:16 1319:22 1353:9 1381:22 1387:14 1395:12 1395:13 1406:12 1408:6 Publicly 1319:15 published 1399:1 pulling 1340:4 pulls 1346:22 pulmonary 1401:22 1401:25 pulpit 1369:12 pump 1333:19 Puratone 1372:8 purchase 1329:15 purchased 1342:12 1360:7 purpose 1306:22 push 1336:1 1344:13 put 1324:23 1327:2 1331:1 1333:11 1337:3 1345:5 1381:20 1384:13 1387:7 1392:5 1415:14 1425:22 1439:5 1453:13 1453:18,19 1455:10 puts 1453:14,23 putting 1319:9 1350:21 1367:8,9 1375:5 1385:17 1426:13 P.M 1306:2 1393:9 1393:10 1456:12</p> <hr/> <p style="text-align: center;">Q</p> <p>qualify 1415:10,13 quality 1314:18 1317:14 1322:12 1322:22 1323:4 1328:4,22 1353:3</p>	<p>1397:6,11 1402:21 1413:5,6 1414:14,15,16 1416:7 quantity 1317:15 1437:5 quarter 1343:7,12 1343:14 Quebec 1350:13 question 1308:22 1320:25 1324:2 1324:11 1325:3 1342:24 1351:12 1357:13 1374:12 1374:25 1375:19 1376:14 1378:15 1378:17,19,23 1414:11 1417:12 1443:24 Questioning 1353:13 questions 1308:19 1359:4 1374:11 1380:3 1391:14 1410:16 1418:14 1426:3 1443:20 1446:10 quickly 1315:19 1405:1 quite 1336:14 1338:5 1346:20 1347:15 1367:19 1378:2 1415:21 1446:1</p> <hr/> <p style="text-align: center;">R</p> <p>radio 1364:11 1366:4 radius 1313:13 1437:15 rail 1313:5 rainfall 1334:10,12 raise 1316:11 1420:17 1453:15 raised 1313:9 1381:5 1382:20 1396:14 raises 1341:23 raising 1321:22 1385:5 ran 1449:18 Ranchers 1386:5 range 1362:6,21 1385:19 ranged 1361:6 rapid 1396:11 rare 1369:15</p>	<p>rate 1335:9 1363:1 1424:18 rates 1331:3 1332:3 1338:4 1353:15 1365:18 rather 1309:16 1317:19 1407:4 1419:20 ration 1332:9 rational 1318:6 rations 1313:19 1314:3 1319:2 1332:1,3,8 RCMP 1382:5 1391:12 1392:17 reach 1371:8 1402:1 react 1382:19 reaction 1382:15 1390:10 1402:4 reactive 1382:13,17 1384:9 read 1322:6 1366:8 1396:6 readable 1419:17 1419:18 reading 1366:3 1419:15 real 1346:22 1359:15,17,24 1363:7,9,11,13 1364:4 1365:3,11 1365:12 1378:7 1396:1 1447:25 reality 1316:14 1376:25 1398:9 realize 1309:11 1325:13 1340:19 1343:3 1345:13 1371:20 1389:17 1433:20 1444:19 1449:19 realized 1327:11 1347:19 really 1324:18 1338:19 1340:1 1346:22,22 1351:12 1360:5 1364:16 1366:4 1375:17 1380:15 1381:1 1386:22 1386:24 1387:4 1388:20 1390:9 1391:11 1410:5 1413:1 1416:10 1418:11,23 1423:2,20 1424:5</p>	<p>1424:22 1426:9 Realty 1359:16 reap 1371:9 reason 1352:21 1375:23 1378:22 1384:25 1419:19 1444:16 reasonable 1309:5 1447:17 reasoning 1445:24 reasons 1309:13 1316:19 recall 1361:5 receipts 1385:23 receive 1337:12 received 1421:24 receives 1337:12 receiving 1445:11 recent 1400:22 1420:15 1431:6 1432:21 1437:25 recently 1332:6 RECESSED 1393:9 recognize 1438:4 recognized 1335:18 1434:2 recognizes 1351:10 1431:17 recognizing 1433:14 recommend 1329:4 1425:6 recommendations 1307:13 1402:24 1406:10 1416:22 1416:24,25 reconvene 1393:13 1456:8 RECONVENED 1393:10 record 1310:19 1314:20 1327:17 1348:22 1359:8 1369:4 1379:5 1393:19 1395:11 1420:8 1428:22 1446:16 recorded 1435:7 recording 1309:25 Recycling 1353:23 Red 1380:6 1387:9 1387:18 1427:23 reduce 1313:6 1319:3,6 1329:9 1330:23 1333:24 1337:6,16 1454:17</p>	<p>reduced 1334:5 1400:13 1450:20 reduces 1331:16 1332:4,12 1333:3 1334:7,16 1402:6 1430:16 reducing 1313:3,8 1313:15 1332:10 1333:7 1345:19 reduction 1314:11 1324:8 1354:8,10 1355:9 1356:6 redundant 1410:18 Reeve 1435:23 refer 1424:10,19 1444:6 Reference 1306:19 referring 1341:17 1411:12,14 1424:13 1440:16 1440:19 refrigeration 1439:25 regarding 1430:24 1431:1 regardless 1450:17 region 1352:11 1353:16 1369:24 1369:25 1370:15 1371:2,14,25 1372:1 1373:13 1373:20,23 1374:2 1438:7 regional 1370:15 1371:23 1374:16 regions 1307:2 1352:14 1353:19 1354:2 region's 1372:8 register 1309:23 registered 1393:14 1409:20 Registry 1402:23 regular 1374:20 1410:13 regulation 1330:11 regulations 1314:8 1318:4 1324:12 1333:12 1336:1,3 1337:5 1341:19 1341:20 1348:11 1350:24 1351:4 1407:13 1426:6 1426:22 1432:22 1433:2 1445:6 1450:24 Reid 1457:5,13</p>
--	---	---	---	---

relate 1349:10	1339:17 1346:11	1432:15 1436:23	return 1316:20	role 1383:7 1395:18
related 1308:3	1353:1 1376:3	1439:1	1334:20 1354:25	rollover 1391:13
1311:5 1349:12	1419:2 1441:6,7	residual 1425:17,18	1367:23 1387:25	room 1310:7
1395:4 1399:22	1441:10 1442:13	residues 1314:13	revealed 1397:12	rotate 1454:25
1432:24	1445:19 1446:5	resilient 1317:25	reversed 1448:2	roughly 1341:1
relationship 1349:8	reporter 1435:11	1370:22	review 1303:3	rounded 1389:9
relative 1312:10	1457:5	resisted 1451:5	1306:6,20 1307:7	routine 1398:16
relatively 1338:10	reporting 1442:5	resold 1361:16	1307:17 1308:15	row 1324:18
released 1397:4,8	reports 1309:4	resolution 1355:6	1308:25 1314:21	rule 1321:13 1353:8
1400:15 1416:15	1320:8 1424:10	resort 1360:17	1353:9 1395:2	ruled 1308:16,18
releases 1405:6	represent 1434:6	resource 1315:25	1441:6,7,9,19	rules 1336:14,15
relevant 1308:12,16	1446:24	1387:3 1395:9	1442:12 1452:10	1350:2,4,11,18,19
reliant 1315:7	representation	resources 1331:6	reviews 1349:25	1351:6,10
relied 1398:1	1418:16	1353:21 1381:3	1441:22 1442:1	1353:11 1410:12
reluctant 1309:12	representative	1387:1,2	rewrite 1445:13	1450:23
1344:19,24	1361:2 1403:21	respect 1310:4	rewritten 1444:24	run 1321:3 1406:20
1375:11,25	representatives	respected 1395:11	re-enter 1406:7	1414:4 1453:5
1445:19	1319:15 1403:15	respectful 1448:17	re-incorporated	rural 1311:9
rely 1404:23 1441:7	1418:18	respirators 1404:13	1314:13	1316:17 1352:14
remain 1330:14	represents 1433:20	1404:17,19	re-wrote 1444:22	1352:15,19
1422:4	1434:4	1405:14	Richot 1454:5	1354:4 1362:11
remarkable 1370:9	request 1308:7	respiratory 1396:10	rid 1404:11	1380:4 1381:21
remember 1380:18	requested 1306:16	1399:6,18,20	rides 1387:21	1382:22 1388:21
1451:8	require 1332:21	1400:11,19	right 1316:25	1388:23,24
reminded 1327:7	1348:6 1432:14	1401:2,18	1321:5 1332:16	1428:25 1429:10
1367:10	required 1308:10	1402:25 1405:9	1332:17 1346:18	1429:18,19
remote 1361:20	1313:15,22	responders 1382:5	1346:19 1348:4,8	1430:21 1431:9
removing 1336:8	1330:22 1351:4	1390:22 1391:25	1369:17 1378:9	1431:12 1433:7
1368:8	1364:24	response 1382:4	1391:14 1404:17	1436:16 1438:17
Rempelco 1311:10	requirement	1387:23 1390:13	1405:14 1411:4	1439:10,19
1314:17	1424:22 1439:9	1392:9 1399:15	1412:15,24	1441:12,25
Remple 1304:11	1439:17,24	1402:8 1410:6	1416:3 1417:22	Russia 1452:6
1310:18,20,21,22	requirements	responses 1384:9	1422:15 1424:21	R.M 1312:8
1310:25 1311:1,7	1324:12 1439:6,9	responsibility	1425:3,15,24	1361:24 1363:3
1311:16,19	1439:12,20	1315:18,19	1426:10,11	1370:10 1375:9
1320:25 1321:5	requires 1313:14	1317:13,16	1427:1,6,12,22	1375:19 1427:16
1321:10,18,25	1314:19 1378:20	1318:17,21	1442:14 1444:19	1427:18 1429:8
1322:10,17,21,25	1441:13	1345:24	1446:10	1431:1
1323:6,9,12,17,20	rescuers 1405:13	responsible 1318:1	ring 1310:6	
1323:25 1324:5,9	research 1309:1	1318:10 1350:20	rise 1426:14	S
1324:15,21,22	1318:25 1319:16	1351:9 1403:10	risk 1396:16 1406:3	sacrifice 1317:23
1325:7,15 1327:4	1319:18 1383:2,8	1405:19	1408:14 1412:6	1326:11
1339:18	1397:12 1399:16	responsibly 1350:3	1415:15	sadness 1326:3
rent 1345:3,4	1407:20 1412:18	1438:25 1452:8	risks 1317:8,20	safe 1317:14
repair 1334:3	1442:16 1451:3	responsive 1383:13	1395:4,5 1397:16	1404:25 1406:3,7
repeat 1389:23	researchers	rest 1315:2 1316:4	1401:11 1403:16	safeguard 1414:6
1454:18	1399:10	1455:13	1403:17	safeguarding
repeated 1359:21	reserve 1361:5	restrict 1449:24,25	River 1372:20	1415:23
repercussions	reserved 1360:25	restricted 1444:6	1380:6 1387:9,18	safety 1333:11
1319:9	1361:2	Restricting 1353:6	1427:23	safety 1382:7
repetitive 1308:17	residences 1437:3	restriction 1433:24	Riverbend 1359:16	1395:9,12 1403:9
replace 1332:2	1437:12 1443:16	restrictions 1318:5	RM 1362:25	1403:11,17,21
replaces 1451:12	residential 1356:15	result 1354:9	1428:18	1405:18,20
report 1304:8	1431:19 1433:16	1402:17 1436:20	roads 1313:16	1407:6 1417:7
1307:8,13	1434:6 1436:16	resulting 1328:24	1361:12,25	Safeway 1327:12
1320:15,16	residents 1370:7,11	results 1309:1	1362:16	sales 1354:9
1326:9,17,20	1375:5,6 1407:22	1343:20	rocky 1368:2	1355:10,17,19,22

<p>1356:6 1371:20 Salisbury 1454:2,3 1454:5 same 1331:9 1337:14 1339:19 1350:17 1355:17 1375:19 1376:9 1379:23 1381:7 1384:19 1386:10 1410:12 1421:8 1449:6 sample 1343:6,12 samples 1314:7 1333:9 1343:4,11 1343:14,18,19 sandy 1330:18 Sargeant 1304:4 1306:7 Saskatchewan 1379:20 save 1392:10 saves 1332:23,24 saw 1361:14 1369:12 1388:13 saying 1319:24 1321:21 1326:16 1327:5 1358:11 1364:2 1375:1 1382:24 1412:11 1423:10 1424:15 1435:15 1444:16 says 1363:23 1383:20 1384:19 1422:16,16 1424:9 scale 1396:12 1400:14,16 1408:12,13,15,18 1415:6,10,15 1422:4 scenario 1401:23 scene 1392:7 schedule 1343:8 scheduled 1307:23 Schinkel 1304:14 1359:6,9,10,11,14 1359:15 1365:17 1365:19,22 1366:1,15 1367:13 1368:4,6 1368:11,15,24 1376:14 school 1359:22 1380:8 schools 1352:13 1364:1,5 science 1318:6</p>	<p>1328:13 1438:14 1451:3 scientific 1396:22 1438:4,23 scientifically 1431:21 1445:25 scoping 1324:24 scratchy 1400:8 screen 1434:20,20 scrutiny 1406:12 sealed 1313:20 seams 1352:13 season 1315:16 seasonable 1358:7 seats 1393:12,17 second 1319:13 1343:25 1380:16 1388:22 1425:5 1428:12 1434:8 secondly 1316:12 Secretary 1304:7 1308:8 section 1343:12 sections 1336:10 sector 1319:10,11 1350:14 1356:8 1410:13 1411:3,5 1412:22 1417:14 sectors 1318:20,21 secure 1330:20 1371:16 see 1325:20 1345:25 1355:18,21 1363:22 1377:11 1377:15,24 1378:12 1380:13 1390:2 1391:17 1409:10 1417:24 1418:1 1426:14 seeded 1362:5 seeding 1314:12 1315:15 seeing 1324:25 1352:15,18 seem 1325:25 1370:24 seeded 1361:21 1426:23 seems 1325:24 1326:2 1375:2 1421:10 seen 1328:20 1346:8,10 1349:15 1353:18 1356:20 1371:15 1371:19,25 1372:22,25</p>	<p>1373:15 1377:9 1388:8 1409:5 1410:5 segments 1370:23 1411:2 segued 1411:5,8 Seine-Rat 1372:20 seldom 1375:14 sell 1329:20 1361:3 1361:9 1363:13 1364:25 1449:6 1452:2 selling 1359:24 1360:2 1361:11 1362:21 1363:11 1364:11 send 1343:19,19,19 1387:10 senior 1363:14 sense 1351:23 1353:4,7,17 1368:16 1417:19 1417:20 senseless 1450:11 sensitive 1401:24 separate 1331:2 1346:25 separation 1331:1 1342:14,15 1346:14,22 1347:8,14 seriously 1319:17 serve 1448:17 served 1349:13 service 1356:9 1366:19 1369:13 1370:19 1371:14 1377:16 1391:1 1452:2 services 1329:17 1334:21 1345:16 1349:5,11,12 1352:12 1376:17 sessions 1309:25 1381:15,16 set 1320:4 1360:25 1384:5 1390:25 1431:25 1432:12 1439:9,20 1440:14 1444:7 setbacks 1439:23 1443:17 sets 1356:6,7 1432:7 1440:24 settled 1383:23 settling 1342:23 1347:1</p>	<p>seven 1391:1 seventies 1363:15 several 1326:19,20 1352:4 1397:25 1399:11 1400:1 1400:14,16 1402:6 1411:10 1416:24 1444:15 1455:15 severe 1399:7 severity 1400:11 1401:2 sex 1332:25 1333:1 1333:5,6 1338:8 1339:2 Shanyn 1304:16 1379:3,6,7 share 1351:25 1387:3 1388:21 1395:17 sharing 1387:2,5 sheep 1316:7 1386:5 sheet 1409:12 sheets 1409:10 shelves 1320:7 1385:7 short 1365:10 1369:13 1380:1 shortage 1322:7 1355:2 shortages 1315:15 shortness 1400:9 shortsighted 1316:3 1319:9 shortsightedness 1406:22 short-term 1396:24 show 1389:21 1421:2 1422:23 1437:12,13,16,18 1437:20 showed 1370:5,8 showing 1436:4,14 shown 1390:1 1402:21 1414:14 shows 1433:17 shut 1451:9 sick 1400:3 side 1354:21 1356:13 1390:5 1392:5 1424:24 1425:2 sides 1430:13 sign 1363:22,25 significant 1312:12 1318:11 1324:13</p>	<p>1336:19 1351:1 1376:24,25 1377:4 1409:16 significantly 1319:17 1377:21 1400:2 1416:7 signs 1406:2 silage 1389:1 Silinski 1304:16 1379:3,6,6,7,9 1385:10,13,22 1386:3,9,14,17,19 1386:22 1387:10 1387:22 1389:19 1390:11,15 1392:21,22 sil 1313:20,25 similar 1333:1 1403:2 1442:17 since 1311:18,21 1328:20 1333:5 1334:16 1337:11 1349:14 1379:16 1421:25 1426:5 1426:13 1452:23 single 1399:12 1449:24 singled 1352:1 sir 1327:21 1349:1 1359:13 1369:9 1420:12 1429:3 1446:21 sister 1386:11 sit 1317:10 site 1309:2,19 1313:10 1335:3 1335:21 1392:16 1439:25 sites 1313:11 1325:22 situation 1326:19 1330:5 1335:24 1345:7 1346:25 1427:5 six 1310:11 1315:14 1339:16 1359:19 1369:23 1409:10 1409:17 sixth 1382:20 sixties 1363:15 1388:10 size 1311:19 1338:25 1355:17 1391:15,16 1396:15 1409:17 1433:21 1437:12 1440:17</p>
---	--	--	--	--

sized 1436:17 skill 1355:2 1356:6 1356:7 slaughter 1430:3 slaughtered 1322:23 1323:1,3 slide 1433:17 1440:12,21,23 1441:4,5 1443:9 slow 1358:9 small 1312:11 1316:21 1328:7 1338:18 1363:18 1399:5 1408:12 1410:5 1416:16 1436:7 smaller 1312:12 1338:13 1339:6 1377:25 1378:1 1408:15 1441:19 smell 1363:24 1376:5 1447:10 smelled 1364:16 smells 1376:6 Smith 1304:8 snapshot 1314:23 1314:25 social 1406:25 1408:2 society 1317:6,17 1320:1,19 socioeconomic 1408:3 soil 1312:4 1314:5 1315:11,21,23 1330:18 1333:9,9 1333:11,13 1335:13 1353:3 1420:25 1421:2,7 1421:13,19 1422:16 1423:1,8 1423:11 1424:10 1424:13,25 1425:2,19 1427:21 1436:10 1438:5 1446:1 1451:12 1453:20 soils 1314:6,14,16 1343:2 1426:20 1438:9,15 sold 1361:7 solely 1397:25 1404:23 solid 1347:12 1383:21 solids 1331:2 1346:23,25	1347:4 soluble 1401:17 solution 1351:25 1447:18 solve 1451:9 solving 1356:12 somebody 1419:12 1428:18 1449:17 somehow 1390:10 1455:18,21 someone's 1392:11 something 1326:15 1326:17 1337:2 1338:19 1341:1 1346:4 1356:10 1356:11 1363:23 1376:1 1388:14 1389:11,22 1396:15 1411:19 1411:25 1417:1 1423:21 1424:15 sometimes 1415:1 somewhat 1410:18 1448:1 somewhere 1419:3 1455:19 somewheres 1409:13 son 1420:14 soon 1349:21 1354:11 sooner 1417:2 sophisticated 1416:8 sorry 1321:2 1355:20 1357:6 1440:20 1449:20 1449:21 sort 1321:13 1327:6 1411:12 sound 1408:11 source 1312:3 1315:12 1365:5 1403:18 1404:6 1407:4 1413:4 sources 1350:16 1351:17,20 1438:11 1450:22 south 1323:3 1360:3 1362:10 1435:17 1454:6 southeast 1369:24 1371:2 1372:11 1372:15,23 1373:4 1377:9 1378:11 1429:12 southeastern	1312:10 1352:2 1359:25 1366:11 1373:9 southern 1366:11 sow 1311:10 1321:3 1447:7 1452:25 1453:6 sows 1328:24 1339:10,12 soybeans 1423:18 space 1401:14 1416:16 speak 1309:16 1320:16 1322:17 1388:9 speaks 1383:19 1416:10 spearheaded 1362:14 special 1454:20 specialist 1328:14 specialists 1407:24 species 1391:15 specifically 1377:7 1378:1 specifics 1432:9 speculators 1361:8 speed 1353:12 speedy 1355:6 spend 1326:6 1329:4 1398:22 spent 1326:9 1359:24 1388:16 spin-off 1366:16,23 1451:18 spirit 1407:9 split 1332:25 1333:1 1338:8 1339:2 spot 1375:6 1398:17 spread 1336:12 1340:18,21 1356:24 1371:15 1385:18 1427:15 1433:1 1436:22 1437:19 1451:11 spreading 1324:14 1437:6,7 1450:25 spring 1344:1 1360:19 1428:10 1446:23,24 spring's 1315:15 square 1362:13 squeal 1376:3 stable 1435:3 1446:1 staff 1311:1	1354:15 1386:25 1387:11 staggering 1370:5 stake 1448:1 stakeholders 1351:7 stakes 1316:22 stall 1452:25 stalls 1328:23 1363:9 Stan 1304:18 1420:7,9,10 1435:23 stand 1320:15 1385:2 1406:3 standard 1438:8,14 1442:21 1443:11 standards 1411:15 standing 1319:24 1382:24 stands 1383:19 start 1336:7 1360:12 1382:10 1419:15 started 1329:11 1351:13 1360:4 1368:12 1433:9 starter 1424:9 starting 1410:3 starts 1340:2 1381:11 state 1310:18 1327:16 1348:21 1420:7 1446:16 stated 1320:10 1457:9 statement 1449:5 statements 1408:1 1414:25 1418:3 States 1321:23,24 1399:3 station 1364:11 statistics 1410:20 1410:21 1418:2 Stats 1330:8 stay 1337:14 1391:20,21 Steinbach 1352:21 1359:16 1363:8 1363:18 1366:21 1369:6,23 1370:2 1370:14 1372:18 1373:15,20,23 1375:4 1378:6,13 1429:13 Stenotype 1457:8 step 1403:18	1430:12 stepped 1337:17 steps 1335:22 1430:20 steward 1381:2 stewards 1335:23 1365:7 1449:13 stewardship 1318:23 1351:16 1380:23 1381:10 1382:8 still 1317:11 1325:1 1332:3 1335:24 1346:16 1353:17 1358:18 1384:19 1391:15 1398:13 1410:5 1422:3 1423:7 1437:6 1438:14 1445:21 stimulate 1419:21 stirred 1406:4 stock 1439:22 stockpiled 1450:6 stones 1368:8 stony 1360:14 storage 1323:10,13 1330:17,20 1342:8 1349:24 1405:5 1455:5 store 1330:20 1385:7 1390:3 stored 1313:19,23 1314:4 1331:21 1420:21 1450:6 1451:15 stores 1377:17 stories 1380:18 1388:2 story 1326:13 1367:24 1368:17 1455:18 strange 1375:3 strategy 1332:16 1394:25 straw 1334:21 1420:22 1428:10 strength 1383:17 stressful 1316:23 stressors 1390:25 strict 1451:1 stricter 1439:6 strictest 1450:23 strike 1450:3 stringent 1350:11 1413:22 1439:12 strive 1330:14 strong 1352:3,20
--	--	--	--	---

1370:14,16 1372:17 1373:24 1417:21 1419:16 stronger 1354:4 1370:22 struggled 1325:16 struggles 1455:14 student 1309:14 studies 1397:12 1400:1,6,14,16,23 study 1416:4 1431:15 1436:20 stuff 1341:23 1342:4 1344:23 1345:5 1346:23 1347:20 1376:4 1415:23 1418:5 1440:2 stunt 1406:13 subdivision 1362:16 subdivisions 1432:5 submissions 1309:7 1309:9 submit 1309:8 submitted 1395:13 subscribe 1322:16 subsequent 1361:10 Substances 1402:23 substantially 1401:1 substantiated 1419:2 substitute 1404:14 sub-trades 1354:13 1357:15,18 success 1360:5,24 1361:16 1362:18 1366:13 1377:9 successful 1317:5 1366:5,8,9 sufficient 1336:13 1343:2 1347:9 1348:7 1398:17 sufficiently 1399:7 suggest 1350:22 1352:20 1400:23 suggested 1358:10 1358:12 suggesting 1425:22 suggestions 1325:4 1325:10 1412:17 1417:3 suggests 1350:1 sulfide 1397:13 1402:22 1405:2,4 1405:7,9,22 1412:10 1413:10	1413:14 summarized 1437:2 summary 1437:24 summer 1381:17 1397:7 summers 1327:8 sunflowers 1423:21 superior 1382:13 supplier 1349:8 suppliers 1329:18 1451:20 supplies 1349:5 supply 1330:8 1333:6 1378:7 1448:13 supplying 1352:12 support 1319:14,22 1320:17 1408:8 1408:12 1430:7 1435:21 1450:9 1452:12 supported 1380:11 supporting 1408:15 1433:13 supports 1383:14 1431:16 1438:18 supposing 1347:7 sure 1333:6 1338:12 1382:9 1384:2,4,6 1387:17 1389:19 1390:6 1391:11 1392:12 1404:9 1404:16 1406:6 1409:1 1423:8 1428:14 1440:19 1443:21 surely 1353:22 1364:22 1366:23 surrounding 1362:23 survivability 1330:12 survival 1450:9 survive 1405:8 suspect 1374:5 1417:23 sustain 1351:10 sustainability 1306:18 1307:10 1307:15 1311:23 1312:6 1351:11 1353:13 1430:11 1430:16,23,24 1438:2,5,13 sustainable 1306:23 1307:6 1315:11	1337:19 1350:8 1351:8 1353:22 1353:25 1372:19 1373:2,25 1378:7 1394:24 1407:7 1407:11 1408:10 1435:20,21 1436:1 1451:25 1452:12 sustainably 1452:8 sustained 1370:17 1373:6 sustains 1312:23 Sweden 1418:19 swine 1328:14,14 sworn 1327:19 1348:24 1359:11 1369:7 1379:7 1394:5,7 1420:10 1429:1 1446:19 symptoms 1399:6 1400:12 1401:2 1403:1,2 1409:6 syndrome 1399:20 1399:21,22 1405:10 synthetic 1332:9 system 1314:2 1318:8 1323:23 1328:20,21,23 1330:20 1331:1 1335:8 1342:14 1342:15 1346:14 1347:8,14,18 1401:23,25 1404:10 1431:5 1433:6 1436:3,16 1437:1 1448:21 1448:22 1454:13 systemic 1400:19 systems 1314:9 1317:7 1329:3 1404:8	1385:2 1393:3,12 1393:17 1434:12 1434:14,19 1435:5 1436:11 1453:21 taken 1335:23 1343:5 1350:13 1370:5 1387:13 1430:21 1432:20 1439:4 1440:2 1457:8 takes 1335:16 1380:24,24 taking 1312:22 1327:6,14 1382:10 1385:5,6 1443:21 1447:16 talk 1309:15 1331:8 1364:15 talked 1364:10 1444:15 talking 1327:7 1344:25 tank 1330:17 1331:5 1342:17 1342:17 1406:3,4 1406:8 tanks 1342:8 1406:1 target 1332:16 1450:3 targeted 1426:23 targeting 1350:14 task 1325:25 taught 1382:12 tax 1312:7 1361:24 taxpayers 1407:4 TCA 1331:23 teach 1389:4 1391:7 1392:3 teaches 1382:4 tearing 1313:5 technical 1349:25 1367:15 1441:5,7 1441:9,19,22 1442:1,12 1447:3 technically 1455:9 technicians 1356:10 technological 1331:9 1338:6 technologically 1416:8 technologies 1331:10,11,14 1335:1 1336:17 1336:21 1337:16 1341:22 1346:16	1349:16 1416:2 1431:13 1454:20 technology 1338:15 1342:21 1350:25 1387:5 1413:25 1414:3 tell 1308:10 1321:1 1363:14 1376:22 1380:19 1383:11 1385:10 1415:3 1436:8 telling 1326:13 tells 1362:25 Temple 1390:17 tempted 1363:25 ten 1307:24,25 1381:20 tenacious 1317:24 tendency 1413:17 tends 1392:6 term 1315:12 1319:21 terms 1306:19 1312:10 1323:9 1323:14 1326:12 1340:18 1355:17 1356:4,19 1374:13 1390:13 1411:9,13 1412:9 1414:12,15 1415:8 1424:22 1427:15 1440:11 1441:4 1443:25 1444:3 Terry 1304:4 1306:7 1410:18 test 1335:3 1343:3 1343:18 1364:24 1404:20 1421:7 1421:13,19 1422:16 1423:11 1423:11 1424:10 1424:13 1453:22 tested 1314:6 1343:4 1344:2 1421:1,21 1450:19 tester 1335:21 testers 1335:2 testing 1343:1,19 tests 1344:6 1421:2 1421:6 1423:1,8 themselves 1355:1 thickening 1399:13 thing 1339:19 1347:13 1363:12 1376:9 1382:18
T				
		table 1309:20,23 1381:4 1393:18 tackled 1450:16 take 1307:3,23 1308:10 1310:7 1326:5,7 1327:12 1327:13 1329:5 1330:10 1337:20 1342:1 1369:14 1379:3,12 1380:23 1381:6,6 1381:8,8 1384:24		

1384:20,23 1392:8 1416:21 1443:18 things 1312:7 1326:23 1338:4 1338:17 1341:25 1342:1 1347:23 1348:11 1368:9 1368:11 1378:4 1380:1 1382:19 1383:3 1385:1,16 1385:18,19 1386:21 1389:15 1389:23 1391:6 1408:21 1413:13 1415:16 1417:10 1417:18 1419:3 1419:11 1439:22 1445:21 1448:8 1455:17 think 1307:25 1323:4 1324:23 1326:23 1338:6 1343:13 1344:5 1347:16 1359:21 1363:7 1367:14 1367:24 1375:10 1384:13 1388:16 1389:14,15 1410:2,4,12,14,17 1410:22,25 1411:7 1412:8 1413:15,18 1415:7 1416:10 1417:11,14,15 1418:19,24 1426:18 1440:20 1444:4 1445:16 1446:11 1449:3 1449:15 1452:21 1455:16 third 1420:13 thorough 1320:5 though 1317:18 1318:9 1441:21 thought 1330:23 1344:17 1360:1 1360:22 1382:18 1435:8 thoughtful 1456:2 thoughts 1418:24 1419:21 thousand 1384:16 1415:9 1447:6 thousands 1315:4,5 1327:10 1329:17 1352:11 1353:17	1356:19 1397:1 1451:17 three 1311:25 1312:1 1361:1 1370:17,20 1376:17 1378:9 1380:2 1442:4 three-celled 1314:4 three-quarters 1333:19 threshold 1441:14 1442:12 thresholds 1432:11 1440:13 thrived 1352:12 thriving 1352:2,8 throat 1400:8 through 1307:20 1331:12 1350:22 1352:6 1372:21 1377:12 1380:9 1385:22,24 1386:23,24 1395:12 1443:7 1449:18 throughout 1353:14 1381:16 1404:21 1433:19 Thru 1380:4 thumb 1321:14 ties 1379:13 tight 1348:15 time 1308:6 1309:6 1311:18,21 1315:3 1319:12 1326:5,8,9,12 1327:6,12,14 1332:17 1334:7 1336:16 1338:7 1341:21 1342:3 1343:25 1344:14 1349:14 1356:10 1361:6,12 1362:19 1364:10 1368:15 1369:21 1379:10,12 1385:2,8 1388:17 1392:23,25 1393:4 1398:22 1417:10 1419:17 1429:24 1435:3 1435:18 1447:17 1456:7 1457:8 timeframe 1348:11 times 1317:19 1324:2 1326:19 1326:20 1359:21	1361:17 1375:7 1404:12 1444:15 tip 1392:6 today 1307:24 1309:22 1327:15 1344:11 1350:22 1352:3 1353:21 1354:3,24 1362:5 1362:20 1365:6 1366:6 1381:7 1384:25 1453:22 1455:14 Toews 1304:18 1420:7,8,9,9,10 1420:13 1422:10 1422:15,19,21 1423:13,17,22,24 1424:2,7,12 1425:1,4,10,15,18 1425:20,24 1426:11,18 1427:1,6,12,14,17 1427:22 1428:2,5 1428:7,9,16,17 1435:23 together 1324:23 1367:8,10 1381:20 1385:17 1387:8 1395:20 1450:21 1455:10 told 1316:10 1321:25 1445:8,8 1445:12 tomorrow 1456:8 1456:10 tone 1310:6 tool 1394:21 1432:16 tools 1411:20 top 1341:6 1422:15 1434:15 topic 1312:18 total 1332:10 1334:11 1337:14 1340:24 1363:6 1437:16 1450:18 touch 1380:5,13 1387:23 1389:16 1431:3 touched 1388:10 tough 1330:5 tougher 1345:11 toward 1312:16 1408:13 Town 1362:11 1429:14 towns 1352:8	1375:8 1450:14 toxic 1398:13,18 1399:22 1402:23 1405:2 toxins 1400:15 track 1335:8 1359:19 1395:11 tract 1360:2 tractor 1388:25 tracts 1401:18 trade 1329:21,24 1347:18 1371:21 trades 1354:21,24 traditionally 1315:17 trailer 1391:2,8,15 1392:3,4 trailers 1392:5 train 1392:17 trained 1405:24 training 1381:15 1390:17 1403:25 transcript 1303:9 1457:7 transcripts 1309:25 1310:2 transformation 1396:11 transition 1350:23 translates 1370:6 1370:12 transport 1366:20 1366:20 1372:5 1391:10 1392:15 transportation 1313:3,11 1356:25 1371:24 transported 1372:2 trapped 1391:8 travel 1313:7,8 travelled 1452:1 travels 1452:6 travesty 1318:18 treed 1360:14 tremendous 1369:24 1371:25 trend 1370:25 1408:12 trial 1331:25 tried 1351:15 trouble 1382:16 1456:7 trough 1334:1 truck 1327:12 1372:4 trucking 1373:17 true 1359:23 1381:3	1390:22 1411:20 1417:13 1457:7 truly 1417:22 1447:25 1448:15 truth 1308:11 try 1313:6 1385:18 1391:7 1392:1,5,6 1414:17 1447:17 1455:17 trying 1325:18 1383:3 1391:23 1423:7 1443:1 1450:10 1455:20 tuning 1319:2 turn 1310:5,6 1317:10 1336:10 1364:1 1373:20 1392:4 turned 1368:16 1447:4 Twenty 1316:10 twice 1344:2 two 1317:3 1319:11 1321:1 1324:17 1325:3,4 1326:4 1328:2 1332:1 1334:12 1336:9 1340:13 1347:1 1362:11 1366:20 1388:16 1393:5 1418:21 1436:16 1445:8,10 1455:11 two-year 1414:2 type 1342:14 1347:4 1401:15 1404:17 1432:25 1440:17 1452:16 1454:8 1455:4 types 1385:16 1436:9,10 1437:5 1442:17 typical 1344:3 typically 1401:25
U				
ultimate 1360:23 uncle 1369:11 unconscious 1405:15 under 1314:18 1322:22 1336:13 1349:20 1443:5 undergone 1396:11 underneath 1422:16 understand				

1346:17 1353:5 1388:25 1399:9 1403:22,24 1412:8 1419:24 1439:14 1440:1 1445:23 1453:17 understanding 1411:4 1442:22 undertake 1442:15 undertaken 1307:19 1333:21 underway 1307:4 undeveloped 1361:13 undigested 1353:23 unfair 1351:19 unfortunately 1319:12 1320:13 1336:7 unhappy 1447:9 unhealthy 1397:12 uninformed 1317:10 unique 1315:1 unit 1342:18,19 1447:7 united 1373:19 1384:8 Unites 1321:23,24 1399:3 units 1339:1 1437:4 1437:17 1441:11 1441:14 1442:11 1442:23 1443:5 universal 1337:25 1338:2 university 1309:14 1325:22 1328:11 1328:17 1383:12 1387:2 unjustly 1407:2 unless 1339:3 1340:2 unlikely 1412:4 unpaid 1386:25 unprofitable 1336:24 unsuccessful 1360:16 until 1307:22 1311:20 1328:9 1328:15 1351:13 1388:13 1407:17 1417:20 1438:11 1441:12 1445:19 1448:23 1456:10 upfront 1406:19	upper 1401:18 1402:4 uptake 1340:1 1438:9 1454:22 upward 1370:25 upwards 1358:24 urban 1316:16 1317:15 1325:20 1370:3 1380:3 1388:21 1429:15 1434:6 1436:13 urbanites 1318:7 1325:6 urine 1397:5 1416:15 usage 1346:12 use 1314:3 1315:2 1318:24 1323:15 1328:23 1331:10 1331:12 1333:22 1333:24 1334:6,8 1334:11 1338:14 1338:16 1340:6 1342:8,14 1345:19 1351:8 1385:15 1402:6 1404:13,18 1413:9 1414:16 1423:2,4,20 1431:3,4 1432:18 1433:4,5 1439:21 1441:2,8,13 1442:11,19 1443:7 1444:8 1451:13 1454:9 1455:5 used 1314:10 1331:24 1334:8 1335:1,3,19 1341:23 1353:24 1353:25 1375:1 1437:5,20 1453:22 users 1423:20 uses 1323:23 1432:13 1440:24 using 1314:1 1323:22 1324:7 1340:21 1342:20 1353:21 1356:22 1402:5 1404:7 1408:10 1413:11 1423:15 1443:13 1454:16,19 usually 1385:4 1401:17 1424:18 utilize 1357:2	utilized 1333:4 1352:25 utilizes 1332:9 U.S 1316:14 1329:21 1338:3 1339:11 U.S.A 1450:15 <hr/> V <hr/> valid 1445:6 valuable 1394:21 1448:21 value 1318:8 1344:17 1345:10 1345:11 1347:11 1347:19 1362:1 1364:4 values 1345:16 1362:5 1365:12 1448:1 variations 1432:13 varies 1340:23 varieties 1434:16 variety 1309:13 1316:18 1396:20 1401:13 1433:3 various 1307:2,12 1313:18 1343:1 1401:12 vary 1443:11 varying 1321:15,16 vast 1318:24 1319:18 vehicles 1372:5 ventilated 1447:12 ventilation 1397:6 1400:13 1402:17 1404:8,10,14 1405:13 1412:23 1452:19 venture 1368:19 Verbatim 1309:25 verification 1314:22 versus 1424:23 viability 1353:6 viable 1319:11 1330:14 1354:4 vicinity 1436:24 view 1430:11 viewed 1435:2,19 Virtually 1371:25 vision 1362:14 1383:18 visit 1409:6 1410:3 1452:7 visitors 1388:1	Vista 1372:9 visually 1346:7,10 vitality 1315:25 voice 1383:18,20 1384:2,8 volunteer 1386:21 1386:23,24 volunteers 1387:11 1399:11 votes 1318:9 1448:6 1450:17 vulnerability 1316:23 vulnerable 1450:7 <hr/> W <hr/> wages 1365:13 Wait 1377:19 walk 1328:20 1452:25 1453:2 Wall 1362:12 wandering 1391:22 wannabees 1361:8 want 1317:8 1351:5 1351:8 1353:15 1364:17,18 1374:24 1376:2,3 1382:9 1384:5,19 1384:23 1389:6,6 1391:11 1392:10 1409:15 1413:17 1417:21 1434:12 1438:19 1447:15 1449:4,9,11 wanted 1393:3 warned 1315:14 warning 1406:2 wash 1334:6 washing 1334:7 wasn't 1440:19 wastage 1333:24 waste 1315:24 1332:22 1333:16 1405:3 1430:12 wasted 1333:18,20 watched 1352:4 water 1329:7 1333:15,17,18,20 1333:22,24,24,25 1334:4,5,6,7,8,9 1334:11 1338:16 1345:20,25 1346:10,12 1353:3 1364:19 1364:19,22,24 1378:7,23,25 1401:17 1438:16	1448:13 1449:10 1449:11 watershed 1449:13 way 1307:1 1324:23 1327:2 1331:23 1362:20 1367:7,8 1367:9 1376:11 1376:11 1378:21 1382:23 1383:3 1384:7 1406:24 1408:9 1409:14 1411:1,2,3 1413:4 1413:6 1414:1 1415:19,25 1417:20 1427:10 1431:1 1442:3 1448:17 Wayne 1304:6 1306:10 1344:8 1367:5 1374:23 1389:13 1414:21 1423:9 1426:4 1443:21 ways 1366:6 1383:1 1403:16 1411:17 1417:18 1431:21 1451:2,3,10 weaning 1389:3 weanlings 1420:19 weather 1316:23 1397:8 web 1309:2,19 website 1309:9 1310:3 1409:9,11 WEDNESDAY 1303:19 1306:1 week 1367:11 1447:4 weight 1313:10 welcome 1306:4 1340:16 1363:23 1372:15 1392:24 Welding 1378:3 welfare 1382:7 1387:13 1390:19 wells 1364:25 1378:9,10 well-being 1395:21 1396:4 Well-meaning 1318:9 well-nurtured 1315:21 went 1331:25 were 1327:7 1330:21 1337:9 1353:8 1360:15
--	---	--	---	--

1362:18 1364:14 1365:17 1368:1,9 1368:10,11,12 1381:2,19 1382:1 1412:4 1413:19 1413:21 1419:18 1421:14 1422:6,7 1433:10 1435:2 1435:18,19 1444:9 1445:8,12 1446:7 west 1367:19 1429:14 western 1380:16 1382:21 wet/dry 1333:23 1452:20 We're 1413:24 We've 1310:11 wheat 1423:17 wheezing 1400:9 whereabouts 1427:14 while 1310:9 1327:7 1336:6 1352:18 1353:12 1370:10 1431:22,25 1448:25 whole 1325:13 1326:18 1341:25 1342:1 1353:14 1388:7 1395:22 1408:6 1444:20 1444:21 1452:19 wide 1385:19 wider 1408:17 wife 1447:8 willingness 1317:22 wind 1447:8 window 1366:7 Winnipeg 1307:23 1318:18 1319:5 1337:7 1351:14 1351:16 1360:21 1387:24 1429:12 1438:10 1450:16 1450:19 Winnipeggers 1327:10 winter 1322:1 1400:12 1402:14 wireless 1435:6 wish 1306:13 1309:5,22 1310:15 1317:1,1 wishes 1456:3 withdrawal 1399:8	women 1400:23 won 1445:9 wonder 1389:16 wondering 1340:18 1341:16 Woods 1390:16 word 1320:16 words 1324:23 1326:25 1327:2 1364:14 1367:8,9 1451:23 work 1316:20 1317:9 1319:6 1362:23 1368:14 1374:18 1383:11 1383:12 1394:15 1395:25 1399:7 1400:10 1405:25 1426:1 1430:18 1445:16,18 1446:3,6 1447:13 1450:21 worked 1328:13 1346:16 worker 1403:15,21 1407:3 worker's 1396:4 working 1312:16 1325:12 1329:4 1358:18 1364:11 1364:13 1366:17 1395:20 1398:20 1400:24 1402:12 1403:3 1406:1 workplace 1399:8 1403:9,17 1405:18 1409:2 workplaces 1409:2 works 1328:4 workshop 1381:19 1382:2 workshops 1385:17 world 1418:23 1447:21,25 1448:3,9 1450:24 1451:22 worry 1426:9 worth 1363:17 wouldn't 1344:18 1347:20 1348:6 1366:23 Wow 1325:7 write 1428:13 Writer 1304:8 written 1309:7,8 1395:13 1418:17 wrong 1337:2	1350:15 1396:15 1441:4 wrote 1453:8 WS 1378:3 <hr/> Y <hr/> yeah 1341:5 1455:1 year 1311:15 1314:6 1329:4 1330:6 1336:8 1343:3,7,22,24 1344:6,7 1349:22 1354:13 1357:14 1358:15 1359:20 1363:5 1377:19 1381:16 1388:19 1420:18,22 1421:7,8,21,25 1422:1 1430:5 years 1315:5,7,9 1316:10 1318:23 1319:18 1321:21 1324:17 1325:17 1331:19,24 1332:1 1354:20 1355:4 1358:16 1358:17 1359:17 1360:9 1361:10 1361:16 1365:2 1369:23 1375:2 1391:1 1409:25 1420:15 1422:2 1438:12 1442:1,2 1442:3 1445:8,10 1449:7 1451:7 1453:21,21 yellow 1434:3,9 1435:1 1436:4 yesterday 1339:15 yielding 1371:8 yields 1423:1 young 1312:2 1364:9 1380:20 1448:16 <hr/> Z <hr/> Zhoda 1362:11,14 zone 1437:7 zones 1433:24 Zoning 1431:15 1432:8 1441:13 1444:23 <hr/> \$ <hr/> \$1,000 1362:19 \$1.5 1312:9 1329:15 \$10 1355:18,22	\$12,000 1362:22 \$20,000 1312:7 \$27 1361:6 \$35 1361:6 \$5 1329:16 \$500 1362:6 \$600 1362:6 \$9,000 1362:22 <hr/> 0 <hr/> 04 1422:3,5 06 1422:3,4 <hr/> 1 <hr/> 1 1336:22 1443:1 1,000 1370:10 1430:8 1,100 1420:17 1,155 1426:1 1,755 1363:6 1,839 1370:7 1.5 1450:18 1:03 1306:2 10 1334:8 1359:17 1359:18 1360:9 1421:20 1422:9 1422:11 1425:14 1430:1 1440:12 1440:21,23 100 1316:16 1426:1 1449:7 11 1303:19 1306:1 1422:2,22 115 1429:19 12 1363:22 1422:6 126 1430:5 1311 1304:11 1327 1304:12 1349 1304:13 1359 1304:14 1369 1304:15 1379 1304:16 1393 1304:17 14 1307:19 1420 1304:18 1429 1304:19 1446 1304:20 15 1308:4 1319:17 1330:6 1337:24 15-minute 1393:4 1500 1311:11 1321:6 1500-acres 1321:8 16 1377:17 1429:24 160 1360:18 1363:17 17 1307:19	18 1442:4 19 1422:7 19.9 1370:5 1957 1311:15 1960s 1349:14 1967 1311:17 1975 1311:19 1979 1328:13 1984 1360:4 1985 1360:5 1986 1360:19 1990s 1362:18 1991 1328:15 1379:16 1994 1328:16 1329:12 1995 1421:6,13,22 1422:6 1426:12 1996 1421:23 1422:1 1997 1420:24 1421:9 <hr/> 2 <hr/> 2,000 1360:3 2.8 1430:8 20 1321:21 1343:13 1357:22 1358:2 1442:4 2000 1433:10 2001 1363:1,5 1370:4 1429:23 1444:24 2002 1444:24 2003 1311:20 1328:9 1431:11 2004 1372:20 1421:6,22 1431:11,14 2006 1363:1,5 1370:5 1421:7,22 1425:16 2007 1303:19 1306:1 1354:9 1418:18,25 2008 1354:10 1443:1 2013 1336:8 24 1428:12 1439:18 24th 1367:11 25 1359:18 1399:17 250 1441:14,17 1442:11 26 1365:18 1422:5 1425:13 1429:25 26.4 1363:1 1370:13 27th 1307:22
---	---	---	---	--

<p>275 1420:20</p> <hr/> <p>3</p> <p>3,000 1341:1 3,000-acres 1343:4 3:18 1393:9 30 1325:17 1359:17 1359:21 1365:2 1399:24 1451:7 300 1442:23 1443:5 320 1363:17 35 1429:12 350 1409:11</p> <hr/> <p>4</p> <p>4 1365:23,25 1421:13 40 1315:6,9 1322:8 40th 1367:11 400 1441:11 1442:23 45 1425:23 48 1428:12 1439:16</p> <hr/> <p>5</p> <p>5 1430:2 5,500 1420:18 1453:11 50 1315:6,9,13 1322:9 1329:14 1354:8 1355:9 1420:19 1453:21 50-year 1311:15 500 1311:10 1321:3 1339:1 1447:7 1453:6</p> <hr/> <p>6</p> <p>6 1365:21 60 1358:25 1359:1 65 1447:4 67 1363:5 1365:23</p> <hr/> <p>7</p> <p>7 1421:14 7th 1309:10 7,000 1339:9,12 7:00 1393:10 70 1354:12 1357:14 1398:25 765 1370:11</p> <hr/> <p>8</p> <p>8 1421:14 8:25 1456:12 80 1315:13 1360:18</p>	<hr/> <p>9</p> <hr/> <p>90 1450:22 98 1316:16 1317:7 1455:12 99 1317:7 1336:22</p>			
---	---	--	--	--