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Chair

Mr. Merv Tweed

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● (1105)

[*English*]

The Chair (Mr. Merv Tweed (Brandon—Souris, CPC)): Thank you, and good morning, everyone. Welcome to the Standing Committee on Agriculture and Agri-Food, meeting 70.

Our orders of the day are pursuant to Standing Order 108(2), a study of the agricultural and agrifood products supply chain, grains and oilseeds.

Joining us today from the Canadian Seed Trade Association is Patty Townsend, chief executive officer, and via video conference from Sherbrooke, Les amiEs de la Terre de l'Estrie, André Nault, president, and Laurier Busque, administrator. Bienvenue.

As always, we'll open with some presentations, and then we'll move to the committee for questions. I'll ask Ms. Townsend to please start, and then we'll move to our guests through video conference.

Ms. Patty Townsend (Chief Executive Officer, Canadian Seed Trade Association): Thank you very much for inviting us.

First, I apologize very much if I lose my voice. My directors kindly shared their cold with me when they were in Ottawa a few weeks ago, and they refused to take it back.

On behalf of the Canadian Seed Trade Association, I'd like to thank the committee for the invitation to meet with you to talk about low-level presence in seed. This is one of the highest-priority issues for our members at this time.

Just as a little background on the Canadian Seed Trade Association, we represent 130 member countries that are involved in all aspects of seed, from research and development and plant breeding, to production, processing, marketing, and trade. Our members work in 50 different crop kinds. We supply the domestic market, and we export on average to about 70 different countries around the world.

Our membership is very diverse. It includes small, single-producer retailers and large multinational companies. We represent marketers of vegetable and herb packet seeds, and we also have the large grain handling companies in the west. We also represent organic seed producers and suppliers and the world's biotechnology developers. As you can see, we have a very diverse membership. But our diverse membership comes together in support of CSTA's mission, which is to foster seed innovation and trade.

Agriculture Canada estimates that nine out of every ten bites of food taken around the world start with the planting of a seed. Seed is the foundation of the world's food supply, and it's an important contributor to its supply of fibre, fuel, and industrial products. Seed is also the driver of the innovation that the world's farmers are going to need to feed, fuel, and clothe a world population that's forecast to reach over nine billion within the next 40 years.

Almost every week there is another announcement of a significant achievement in plant breeding and research and development by the world's private and public plant breeders and researchers. Advances are being made in drought and heat tolerance, insect and disease resistance, efficiency of water and resource use, and in the quality and health benefits of plant products. These advances are being made through traditional plant breeding, with the use of recombinant DNA technology and through new and emerging breeding techniques. All of them are focused on greater productivity, a smaller environmental footprint, and improved quality.

In 2012, 17.3 million farmers in 38 countries planted 420 million acres of genetically enhanced crops. Canada was the first country to commercially produce GE crops, and we're now the fourth-largest producer of these crops, with almost 29 million acres planted to GE canola, corn, soybeans, and sugar beets.

Given that scale of production, the fact that production is for the most part done in large, open biological systems, and given the scale and nature of transportation and trade, it's well understood that low levels of GE material in non-GE shipments—a low-level presence—is likely.

While many countries have embraced the science and approved GE events, many have not yet and others are unlikely to ever fully approve the technology. Zero tolerance in these countries does and has resulted in the rejection of shipments, and the impact on trade is substantial.

Canada has taken a leadership role to develop a science-based, predictable, and trade-facilitating domestic low-level presence policy that we hope will serve as a model for countries around the world; however, that policy does not apply to seed.

Canada is a significant producer and exporter of seed. In 2012 seed was grown on 1.2 million acres across Canada, and as I said already, much of that seed is exported, some to countries and regions that maintain a zero tolerance for GE material.

Unlike with grain, seed production, handling, processing, and trading systems are subject to very strict regulations to ensure purity, quality, and trueness to type, but seed is produced in the same regions and often in the same fields as grains and oilseeds, including those that contain GE events. For example, 75% of Canada's certified seed acres are in the prairie provinces of Alberta, Saskatchewan, and Manitoba. As well, 98.9% of the canola that's grown, is grown in those provinces, and 98% of the canola that's grown is genetically engineered.

So despite the very stringent control practices in the seed industry, there is a possibility that there could be a very low-level presence of GE material in seed lots, and that does impact trade. It's impacting trade most significantly for our forage seed exporters, whose second-largest export market is the European Union. Exports of forage seed to the EU countries were valued at about $31 million in 2012.

Since most EU countries—not all, but most—have a zero tolerance for GE in seed for planting, our members are now facing existing contracts that are being modified, and new contracts are requiring legal declarations that the seed is 100% GE free. Some of our members have lost sales as a result of that because they cannot make that guarantee, and others have had shipments rejected. One shipment of timothy seed was actually rejected for the presence of .00009% GE, which is very, very, very small dust.

Given the large commercial production of GE crops around the world, the potential for trade disruptions and loss of markets is growing. The best solution for all of this would be for all trading countries to implement science-based timely approval systems for GE products. The next best solution would be for trading countries to recognize and accept the science-based approvals of other countries. While we're working toward that with our industry and government partners, in the more immediate term, and if those two objectives cannot be reached, we need an international low-level presence policy.

In the seed industry, we define low-level presence as the unintended presence at very low levels of genetically engineered seed that has been approved in at least one other country but not in the country of import.

As I said, Canada has taken a strong leadership role to develop a low-level presence policy domestically that can be used as a model around the world for grain, but it does not include seed. It is a very high priority for our members, given all of the impacts that we've already been facing and continue to face on trade.

We're working with our government to start the process to design a Canadian LLP policy for seed, and we hope it can, like our grain policy, serve as a model for other countries. We're also working closely with the international seed industry and with the industry and regulators in the Americas on the issue.

Our goal in the short term is to have seed trading in the Americas where over 90% of the GM production is. We'd like to have seed trading in the Americas under a common LLP policy. We support an LLP policy for seed that acknowledges that it's not practical or achievable to require a zero presence; that it's science-based, practical, and transparent; that it's proactive and predictable; that takes into account the safety and risk assessments of other countries; and that it takes into account the rigorous requirements to maintain seed purity and trueness to type, and the international standards that govern that and that govern seed trade.

Thank you very much. I'd be pleased to answer any questions.

● (1110)

The Chair: Thank you very much.

We'll now go to our witnesses through video conference. I'm not sure which one wants to present, but I'll just ask you to commence, please.

[*Translation*]

Mr. André Nault (President, Les amiEs de la Terre de l'Estrie): Thank you very much.

My name is André Nault, President of AmiEs de la Terre de l'Estrie.

Mr. Laurier Busque (Administrator, Les amiEs de la Terre de l'Estrie): My name is Laurier Busque, Chair of the Zero-Waste Committee.

Mr. André Nault: Thank you for inviting us to participate, especially from Sherbrooke. You saved us nine hours of travel. Thank you kindly.

Before we begin,we'd like to tell you that our position has to do with what is going on right now. Our past is the key to our future, and that future is worrisome.

AmiEs de la Terre, or Estrie friends of the earth, is an environmental organization. Both of us are volunteers. We have no financial ties with any company. Now, I will go to our introduction at the bottom of the page.

Today’s greatest challenge related to food is a lack of knowledge of where that food comes from. The low-level presence, or LLP, of unauthorized genetically modified crops in grain shipments imported into Canada adds to this challenge. Agricultural practices are so different from country to country that the origin of foods is becoming essential knowledge if products are to be socially accepted. In Canada, the mere fact that the studies submitted by genetic modification companies are kept secret places a burden on a fair agri-food chain.

Mr. Laurier Busque: We would now like to discuss two sources that we believe are at the origin of the problem of the environmental drift of genetically modified organisms, or GMOs.

The first is the unrestrained development of genetic modification technology. Figure 1 contains a diagram illustrating this aspect.

Over the years, four stages of GM plant development have been observed. Stage 1 is the introduction of a transgene into a plant. That transgene can allow the plant to produce an insecticide or to tolerate an herbicide. That practice was authorized in Canada in 1996. Stage 2 came about the following year: the introduction of two transgenes into a plant, either to produce the Bt insecticide or to tolerate an herbicide. Stage 3 is the introduction of three transgenes into a plant, two insecticides and one herbicide, or vice versa, two herbicides and one insecticide.

In 2011, all of that culminated in the authorization of SmartStax by Health Canada and the Canadian Food Inspection Agency. SmartStax is a plant containing eight transgenes, with six producing insecticides and two tolerating herbicides. We believe the unrestrained development of GMOs is cause for concern.

The other source of the environmental drift is inadequate risk assessment. We have a table that summarizes everything. It shows two approaches to the risk assessment of GMOs. The first column shows the precautionary principle, which is used mainly in Europe, and the second column shows substantial equivalence, which is used mostly in Canada and North America.

We feel that risk assessment in Canada is clearly inadequate. There is a major difference between Europe and North America in terms of the assessment of GMO-related risks. In Europe, assessment systems based on the precautionary principle attach much greater importance to environmental impacts, whereas in North America, risk management emphasizes the commercial interests of the industry.

A bit further on in the document, we've included a quote from the Quebec government's science and technology ethics commission. As early as 2003, the commission was warning of the potential risks of GMOs to the environment. It said the following:

> In terms of the environment, however, harm to biodiversity, the contamination of other crops or wild flora, the development of resistance to pathogens, and toxicity to wildlife are potential risks that cannot be ignored, particularly because we must be aware that if they come to pass, they could result in irreversible evolution for nature or transformations that will be difficult to remedy if required.

That comes from a document the commission released in 2003.

So 10 years ago, we were already being warned of the potential dangers. And today, there are studies that show those dangers are no longer potential but very real.

● (1115)

Mr. André Nault: In 1996, Canada authorized transgenic canola, and seven years later, in 2003, no accreditation for organic canola was granted in Canada. How did a seed that had only been an LLP become invasive in only seven years?

The case of organic flaxseed is even more striking. Transgenic flaxseed was approved in 1998 and withdrawn in 2001. In 2009, Germany reported the presence of GM flaxseed in processed products in 34 countries.

The first explanation for the origin of this problem is the open field trial at the University of Saskatchewan in 1995; from then until 2001, a total of 40 seed producers produced some 200,000 bushels of flaxseed for sale to farmers.

We feel that, in Canada, risk assessment is clearly inadequate for the production and use of agri-food GMOs. The Canadian Food Inspection Agency's response to the complaint we submitted in February 2012 illustrates this inadequacy.

A recent study looked at the presence of pesticides in rivers in Quebec. The herbicides used in conventional agriculture are applied by spraying when the seedlings emerge from the soil. In contrast, the herbicides used on GM plants are applied later in the season and have broader impacts on the natural environment. With respect to Roundup, or glyphosate, the study had the following to say:

> The detection frequency and measured concentrations for glyphosate continue to increase. This herbicide, which is used on GM corn and soybean crops, was detected, on average, in 86% of the samples collected from the four agricultural rivers under study. The dominant crops in the watersheds of those rivers are corn and soybean

Figure 3 illustrates that.

One of the claims often made by GMO advocates is that herbicide use is reduced when transgenic plants are grown. The results of Giroux and Pelletier's study show that the opposite is true.

In light of the consequences of contamination by transgenic flaxseed, AmiEs de la Terre de l'Estrie asks that Agriculture and Agri-Food Canada establish zero tolerance for the low-level presence of unauthorized GM crops in grain shipments imported into Canada.

Thank you very much.

● (1120)

The Chair: Thank you.

Ms. Brosseau, you may go ahead.

Ms. Ruth Ellen Brosseau (Berthier—Maskinongé, NDP): Thank you, Mr. Chair.

I want to thank all the witnesses for their presentations and their viewpoints.

I have a question for AmiEs de la Terre.

Your organization is non-profit. How many members do you have?

Mr. André Nault: Somewhere between 800 and 900 members.

Ms. Ruth Ellen Brosseau: That's a lot.

The government recently held consultations on the presence of GM crops in imports. Were you consulted?

Mr. André Nault: We provided a short statement that read: "If they can be detected, why not label them?" That was our submission.

Ms. Ruth Ellen Brosseau: Okay, but in terms of the government consultation, were organizations like yours consulted?

Mr. André Nault: We were consulted and our only comment was this: "If they can be detected, why not label them?"

Ms. Ruth Ellen Brosseau: I fully agree with you.

As far as labelling goes, can you tell us how the organic industry will be affected by the government's proposal?

Mr. André Nault: It will have a huge impact on the organic industry.

Take flaxseed as an example. If you import grain with a GMO content of just 0.1%, contamination will span the entire country. We looked at canola, and it took 6 years for it to become contaminated. In the case of flaxseed, which had been in production for just 3 years, 34 countries were contaminated. Coexistence is impossible if the unrestrained development of GMOs is allowed to continue; they can survive all over the world.

Ms. Ruth Ellen Brosseau: You are calling on the government to establish a zero-tolerance policy.

Mr. André Nault: Permanently.

Ms. Ruth Ellen Brosseau: How can the government achieve and maintain zero tolerance? Some witnesses have proposed or agree with a threshold of 0.1% or 0.2%. They've even talked about other countries with higher limits on genetically modified products that are imported.

How can Canada maintain zero tolerance?

Mr. André Nault: There is no labelling. How will we know for sure that the content is 0.1% or 0.2% without any labelling? Europe has a GMO labelling system. Europe decreased its GMO concentration in imported seed grains from 50% to nearly 0%. European countries have maintained a zero tolerance as far as GMOs are concerned, and they ensure products are labelled.

That's somewhat the same for us. If imported grain contains GMOs, without labelling, what is there to say that an evaluation was done and that the threshold does not exceed 0.1%? Do you see what I'm saying?

In contrast, the tolerance should appear on a label. If we had a labelling system, consumers could see that the level was 0.1% and think that's good. But we don't.

Ms. Ruth Ellen Brosseau: Someone could argue that organic products are certified and bear a label stating they don't contain GMOs. That's not enough in your view. You want labels on everything.

Mr. Laurier Busque: I could answer that, if I may.

When it comes to organic production, not only do farmers bear the burden of proof, but they also bear the burden of cost. They must ensure that their product is GMO-free, and they have to bear that cost. They have to take precautions and even financial risks to establish buffer zones to protect their crops.

That is another consideration. If we want organic farming to develop, we have to help those farmers do everything they can to prevent GMO contamination.

● (1125)

[*English*]

Ms. Ruth Ellen Brosseau: Patty, I just have a quick question for you. I'm sorry, I did come in a little late.

If you could reference the proposed policy with the action level of 0.1%, 0.2%, what percentage, science-based, are you asking for acceptance into Canada?

Ms. Patty Townsend: First of all, the policy that proposes that action level does not apply to seed; it's only for food and feed. In the seed industry, we are not yet at the point of determining what the action level and the thresholds would be for seed. What we are saying is that we need to make sure that whatever policy gets developed for the grain industry is not at a level that we can't carry as the foundation of the grain industry and the seed industry. So if it's set so incredibly low and they expect the seed industry that's produced in the same open biological systems to carry it, that would be difficult. Conversely, we wouldn't want to set a threshold in seed that's at a point where it would make the grain threshold way too high for international acceptance. So we need to work on that.

We have been saying all along that seed is different from grain, for a number of reasons. One is that we intentionally introduce our product into the environment, and the other is that the seed industry already practises very strict regulatory controls to keep our product separate and to keep it pure and true to its variety and its identity. So we believe that needs to be taken into consideration. We've been trading seed around the world under those standards for years, for decades, and it does allow very small proportions of other seeds. In a lot of clover you're allowed one canola seed, for example, in certain classifications, and we know that the one canola seed, if it's coming from Canada, is likely GM or GE.

So we're talking about taking those into account, and as much as possible mirroring those standards that are already in place to govern seed. But we have not actually defined the threshold levels yet.

[*Translation*]

The Chair: Thank you.

[*English*]

Mr. Lemieux.

[*Translation*]

Mr. Pierre Lemieux (Glengarry—Prescott—Russell, CPC): Thank you, Mr. Chair.

I'd like to thank our witnesses for being with us today.

I have a question for the representatives from AmiEs de la Terre de l'Estrie.

It is clear from your presentation that you are not in favour of GMO use. But that isn't really what we're discussing today. GMOs are used, and that will not stop.

The real issue is this.

[*English*]

It touches on low-level presence. GM crops have been approved for animal feed. They've been approved for human consumption here in Canada. They're considered to be safe, as based on science. I understand the concerns you have, and it's good that you bring them up, but really we're just talking about a low-level presence, not whether GM crops should exist in the first place. They do exist; they're going to continue to exist. They've been deemed safe through scientific methods.

I was listening to Madame Brosseau on low-level presence in organics. My point of view would be that the organic sector would be in favour of low-level presence, not because that would necessarily imply you therefore approve of GM crops, but because an organic shipment can be contaminated not just by GM products but by non-organic products, through no fault of your own. The organic farmer may harvest his crops in an organic manner. He may store them in a silo that is perfectly clean, but then they go onto a truck and they go into another silo. They go through another handling system. His organic crop that he paid a premium to grow and to harvest has been contaminated, and it's not his fault. It's not a health and safety issue; it's just a very low-level presence of non-organic material. It might not even be GM.

I don't understand, really, the organic opposition to low-level presence when I think it would actually help the organic farmer, because it's quite reasonable. If there were one thousand grains of corn and one grain of wheat in that one thousand grains of corn, the organic farmer would ask, why are we rejecting my one thousand grains of corn for the one grain of wheat that was actually in a truck that I don't control, or on a conveyor belt that I don't control?

I'm not even talking about GM. If the organic sector accepted low-level presence, in no way does it mean they therefore accept GM. It's just talking about delivery of a product, provided it's fit for human consumption. As I said at our last meeting, we're not talking about arsenic or lead being in there; we're talking about the other product being fit for human consumption as well.

I'm wondering if you could comment on that. I'd be very interested in hearing your thoughts.

● (1130)

[*Translation*]

Mr. André Nault: Thank you, Mr. Lemieux.

Your question has two parts. The first has to do with science. Science can be verified. And since that is true, it must be demonstrated to the public. And yet, all the research conducted by GMO companies is kept secret. It cannot be verified. A great many studies today are saying that GMO elements can be found in fetal blood. One such study was done here in Sherbrooke, at the university. It showed that 93% of fetuses in Quebec—

[*English*]

Mr. Pierre Lemieux: If I could just interrupt, I think you're arguing the GM part. I don't really want to get into that, because there are many countries that have approved it and there are many studies. Let's just talk about the non-GM product, the one grain of wheat or the one soybean that could find itself in one thousand grains of corn. None of it is GM. Why would the organic sector not be open to a low-level presence in that sense, in that case?

[*Translation*]

Mr. André Nault: I am convinced they would be just as open if they were to have a canola field with GM corn growing in the canola field or the soybean field. You will understand the reality if a certain level of tolerance is allowed as far as other products go. In the case of a weed, an organic farmer will no doubt pull it out. But the farmer can't do that in the case of a GM crop because it will give rise to contamination. That's the reason baseline studies are a bit distorted. The current discussion with the Canadian Food Inspection Agency and the public health agencies is not based on science. I have a letter from the health minister saying—

[*English*]

Mr. Pierre Lemieux: I don't think we're talking about the same issue. I'm talking about non-GM product. You have an organic farmer who has one thousand grains or one million grains of non-GM corn. In there is 0.1% of something else: a non-GM soybean or a non-GM wheat kernel, something that is not the corn. None of it is GM. It's all fit for human consumption. It's not GM. Why would the organic industry be against low-level presence, based on that scenario?

[*Translation*]

Mr. Laurier Busque: Again, I'd like to come back to our flaxseed example, if I may. How do you explain the fact that GMO flaxseed production stopped in 2001 and yet, in 2009, flaxseed containing traces of GMOs was found in 34 countries? That is 8 years later. How do you explain that if there were no issues with GMOs spreading by way of the various seeds provided to farmers?

[*English*]

Mr. Pierre Lemieux: If I may, I'm not talking about GM flax. You don't have to answer. I'm talking about if you have 1,000 grains of flax, non-GM, and there's one grain of corn in there, non-GM. That is contamination. You would say that's completely unacceptable: you cannot have one grain of corn, non-GM, in your 1,000 grains of flaxseed. You just cannot have that; that's low-level contamination.

I don't accept that. I'm saying it's all non-GM. Why would the organic industry be opposed to that if it's all non-GM and it's all approved? That is considered to be.... Contamination is not the right word, but you know what I mean. It's a non-flax product in a flax shipment.

Thank you, Chair.

The Chair: Thank you.

Mr. Valeriote.

Mr. Frank Valeriote (Guelph, Lib.): Thank you, Patty, André, and Laurier, for coming up here. Laurier, I like your first name.

I want to ask Patty this question. I'm going to read from an article that was written by Rene Van Acker for this committee. You may not have seen it. I'll give you a copy later. It's incredibly informative.

It says:

> Relatively little research has been done on the nature of seed mediated GM material movement. What has been broadly acknowledged, however, in relation to seed mediated GM material movement is that it is often related to human involvement or human error in regard to handling or managing crops or seeds.... In terms of seed movement, certainly complete separation of operations (e.g. farming and grain handling) is acknowledged as a prudent means of working towards successful coexistence between GM and non-GM crop production and towards the goal of preventing GM material from ending up where it is not intended, expected or wanted. Starting with absolutely clean seed (seed free from GM material) is critical—

● (1135)

The Chair: Can I interrupt for one second, Mr. Valeriote?

You're referencing a presenter who is going to present in the second hour.

Mr. Frank Valeriote: Yes, I know that, but I want her opinion.

The Chair: I know that, but I think it's unfair to quote from a future guest's presentation. I'm questioning whether it's proper for you to bring another guest's presentation that we haven't heard yet into the discussion. I'm sorry. Could you go directly to the question?

Mr. Frank Valeriote: I'll stop quoting from it, Mr. Chair, but the point is that Mr. Van Acker and others are talking about the need to implement strategies and protocols to make sure that there is a zero-level presence. That's perceived by some. I'm not saying Mr. Van Acker is saying that. I'm saying that's the problem right now in the seed industry, and it's generally human error.

I know that Denmark has deployed strategies to allow coexistence with an almost, if not complete, zero presence.

I eat GM. I want to say this very clearly: I don't have any trouble eating GM foods. I don't. But I also very much believe in the right to coexistence and the separation of one from the other. Frankly, I think it's a matter of economics and convenience that we're now leaning towards this low-level presence.

My question is, is the cat out of the bag even in the seed industry? Is the toothpaste out of the tube in the sense that your industry can't deploy the same protocols in Canada as they do in Denmark to make sure that, at the very least, seed, which, as you said, is not the subject of these negotiations, it's other crops...? Is it not best at this point not to choose convenience and instead choose purity of your seed?

The Chair: Ms. Townsend.

Ms. Patty Townsend: Thanks, Mr. Valeriote.

We have always chosen purity of seed in the seed industry. We have always had structures and regulatory systems in place to ensure that as much as possible we can keep seed completely separate; that it is pure; that it is true to its identity.

We have measures in place in the field. The fields are inspected. There are regulatory requirements around buffer zones and isolation distances in terms of seed and the presence of foreign material and other plants. The same thing happens in the laboratories. The same thing happens in the processing plants that package and handle and move the seed.

However, as I've said before, you're in a world where you have so many acres now of GM production—not necessarily seed production, because we also have to remember that grain can be planted and seed can be eaten—and where you have that many millions of acres, in that many countries, that are now planted commercially to GM or GE products. In Canada we're looking at over 29 million acres planted commercially to GE products. They're grain, mind you, and some seed.

I hate to make this rash conclusion that the horse has left the barn, but we are facing the reality that zero is not achievable in seed or in grain. You can have a shipment turned back for 0.00009%, and that can be a piece of dust that was on a glove that cleaned a piece of equipment that grain moved in first.

The other thing is that we have only so much land in the world. It could be that in a field, two or three years before, a GM crop was planted and grown, and then a seed got dropped out of the harvester and ended up in the seed crop.

So no, I don't think it's possible to go to zero.

● (1140)

Mr. Frank Valeriote: Your presentation spoke of UPOV 1991—the written press document—and I've looked at a document that spoke to the seed industry, the Canadian Seed Trade Association. Perhaps you would like to make a comment here.

First, how important is it to your industry that we are one of only two developed countries that do not operate in accordance with the UPOV convention of 1991?

Also, would you tell us how the farmers would react if they knew they suddenly had to pay more than once for their seed? Because that's the impression I'm getting, that you need to recover some of your investments in your research.

Ms. Patty Townsend: It doesn't really relate to low-level presence. Is that okay?

Mr. Frank Valeriote: I understand, yes, but I want to know.

Ms. Patty Townsend: Okay.

The Chair: Very briefly.

Ms. Patty Townsend: I'll be as brief as I can. It's been 20 years we've been working on UPOV 1991, but I'll try to do it in a few minutes.

UPOV 1991 is extremely important in Canada for our plant breeders and for our farmers. The majority of field crop farmers accept and acknowledge that it's extremely important. There are two reasons. One is that we need to create that kind of environment where our own private and public breeders can recover enough funds so that they can reinvest in plant breeding and research. The other is that over the last few years many countries that have traditionally sent varieties to Canada for us to test them and use them in Canada, for our farmers, are now refusing to do that because they can't protect their inventions the same way they can in other countries.

Most of the farmers, as I said, have acknowledged that.

The whole subject of paying twice is not quite correct. Under UPOV 1991, you have to first try to collect your royalty, if that's what you choose to do to exercise your right, on the propagating material. If you have not had the reasonable opportunity to do that, UPOV 1991 does allow for collection on the harvested product.

The Chair: Thank you.

Mr. Payne.

Mr. LaVar Payne (Medicine Hat, CPC): Thank you, Chair.

Thank you to the witnesses for coming.

I was following your presentation, Ms. Townsend, and there's a lot of information in here.

In one of your opening statements you mentioned that in 2012, 17 million farmers in 28 countries planted 420 million acres of GE crops.

I know that Canada is one, but could you name two or three other large producers?

Ms. Patty Townsend: The first largest producer is the United States, the second largest is Argentina, and the third...I can't remember. China and India are the big ones. It's growing around the world now. A lot of South American countries are moving into it, and also some European countries.

Mr. LaVar Payne: I know that Canada is pushing worldwide to come up with something in terms of low-level presence. I'd just like to hear your comments on that.

Ms. Patty Townsend: We're very happy that Canada is playing this leadership role. Relying so heavily on the export market, particularly in our grain industry, we believe that you can't go out and tell other countries that it's inevitable that there might be a low-level presence of a product you haven't approved in your country, so they should be looking at a low-level presence policy. It's not really right to do that if you don't do that in your own country.

We're saying that while the system we do have in place in Canada works well, where if it's detected you do a risk assessment and then you have flexibility to determine how to bring it back into compliance, it would work very well for a domestic...and given our regulatory system and the relationship the industry has with regulators in Canada, but it's not an exportable program. For us to go out to other countries and say they need to have a program, without having one ourselves, is not a very good idea. We've been very supportive of Canada developing a domestic policy that's science-based, predictable, proactive, that facilitates trade, and that can serve as a model for other countries.

Mr. LaVar Payne: Okay. I have a follow-up question about what you said on risk assessments. Could you maybe give us a little more information on what you see needs to be done in terms of those risk assessments?

Ms. Patty Townsend: What is done in terms of risk assessments in Canada is very stringent. Risk assessments are conducted by both the CFIA and Health Canada, and even on seed. If there's a risk assessment required, Health Canada assesses it or its impact on human health and safety. It does testing around allergenicity. All of the results of the risk assessments and the safety assessments are available from government websites. I do have a document that has all those links that I can leave with the clerk if you wish. Unfortunately, it's not translated.

Then the CFIA looks at it in terms of two different components. They look at it for its impact on the health and safety of livestock. They also look at it for the impact on the health and safety of the environment. In those cases they look for its ability to spread to wild or native relatives and whether it's a substantial change and could have an impact on the non-genetically modified or genetically engineered material that's out there of that same crop. All of that information is publicly available on websites.

● (1145)

Mr. LaVar Payne: That sounds like a pretty detailed process. Do you have any idea how long it would take to do those risk assessments?

Ms. Patty Townsend: In Canada there is a service guarantee for safety assessments. Risk assessments don't take quite as long as a full health and safety assessment for full approval. We have not really had a low-level presence issue in Canada yet, so it's hard to know. We have had a couple of what we call “adventitious presences”, which are escapes from research labs or things like that, where it's not approved anywhere, and the risk assessments have taken longer. But where it's already fully approved somewhere else —and in the case of grain for food and feed, there is an international body, under the codex, that talks about how to do a risk assessment and how to do a safety assessment—I think it would probably take a little less time than a full safety assessment.

Mr. LaVar Payne: I have one last question. I'm not sure how much time I have left.

My colleague was trying to talk about a low-level presence, not necessarily GM, in a crop that was shipped off somewhere and then had to be binned and shipped again, and it could be that one little piece of barley or whatever in corn. What are your thoughts in terms of that particular aspect? I'm sure that does happen with seed.

Ms. Patty Townsend: It does. In the seed industry, that's where all of those very rigorous international standards and guidelines come into play, the OECD seed schemes or those of the Association of Official Seed Analysts, AOSA. There are very rigid requirements for different classes of seed pedigree that say, for example, in a 25-gram lot of clover you could have one canola seed, or you could have one piece of dirt, or you could have one other foreign seed. You could have one weed seed, for example. Those aren't the exact standards, so don't quote those, but those are examples.

So seed has always traded that way. All of the members of the OECD seed schemes, for example, which include Europe, accept, acknowledge, and support those standards. Those are recognized. They are accepted, and seed has been traded for decades under those standards.

The Chair: Thank you.

Madame Raynault.

[*Translation*]

Ms. Francine Raynault (Joliette, NDP): Thank you, Mr. Chair.

Mr. Nault, a little earlier, you had a good conversation with Mr. Lemieux. Why do you think it is important to identify a low-level presence of GMOs? What are the risks? Do you think the impact studies have been properly conducted?

Mr. André Nault: To answer your last question, I would say that the answer is no. The impact studies have not been properly conducted. No studies have been done. We rely on what the companies give us. I have proof of that because the Minister of Health wrote to us and said that she was waiting for the companies to do the necessary studies. So she told us that nothing had been verified and, in the case of SmartStax corn, we were waiting for the company to do it.

When a low level is present, the tolerance level will gradually increase because, as they say, we don't have a choice. This is how it is around the world. The product producer has an opportunity to distribute it more. That is always where the problem lies with very low-level tolerance.

I think Mr. Busque would like to add something.

Mr. Laurier Busque: Once again, I will use the example of flax.

Generally, once a GMO is authorized and disseminated in open environments, neither the biotech company nor the farmer using the genetically modified seeds have a clear responsibility toward producers of non-GMO products, which are greatly affected by contaminations. That is to illustrate who is responsible.

I think the companies in Europe have responsibilities. If a producer has a contamination problem, the company should normally, through risk mitigating procedures, enable the producer to continue to produce non-GMO products. That is one aspect. We are introducing a problem in Canada with the use of low concentrations. Once again, that does not eliminate the responsibility of companies and users of these products to protect people who do not want them, including a lot of consumers.

Why are everyday consumer products not labelled to indicate that they do not contain GMOs? Because the companies are afraid that people will reject their products if that was indicated. Once again, consumer information should prevail.

● (1150)

Ms. Francine Raynault: There is a chart in your document on GMOs, risk assessment, the precautionary principle in Europe and the substantial equivalence in North America. Furthermore, I also know that groups have long been putting pressure on the government to have GMO-containing products identified. If they are identifiable, they could perhaps be identified.

On the next page of the English version, it reads:

> This herbicide, which is used on GM corn and soybean crops, was detected on average in 86% of the samples collected from the four agricultural rivers under study; the dominant crops in the watersheds of those rivers are corn and soybean.

What is happening with these rivers, with the water? Do animals drink this water? Do people drink this water? What are the long-term impacts of having water with GMOs? What happens? Do people die?

Mr. André Nault: The assessment was done on the glyphosate and not on the GMO as such. We wanted to use this chart to show the presence of glyphosate in the waterways compared to what it was previously. In 2002, there was a low concentration. It has increased since then. In 2010, the concentration was double or even triple what it was before. So it is not correct to claim that GMOs will lead to a drop in the use of herbicides.

Mr. Laurier Busque: We are also concerned that these concentrations are in the water. For the most part, the water is in the lakes. It settles and concern is starting to grow about what is happening with the accumulation of these products in the sediment. There is very little research to document this aspect, as we find this herbicide in aquatic areas.

Ms. Francine Raynault: The LLP file talks a lot about accepting the scientific equivalence of foreign countries in our GMO assessment process. Mr. Nault and Mr. Busque, according to you, are these assessment processes standard around the world? Are there models that should be avoided or followed? Who do you trust with respect to this process?

Mr. André Nault: We trust independent studies, which are unfortunately not recognized by the Canadian Food Inspection Agency or Health Canada. Evidence of that is the complaint we submitted to the Canadian Food Inspection Agency regarding the fact that a genetically modified product crosses the animal's intestinal barrier and gets in the human food chain. This completely changes the order. In fact, GMOs were accepted because it was believed that they did not cross the intestinal barrier and were destroyed by heat. A number of studies indicate that this is not the case.

There are 14 peer-reviewed studies, which were not accepted. The weight of evidence and the science went against their findings. The more studies there are that say that there is no danger, the more people believe them and the more we set the other studies aside.

Science does not have weight. It is only a verification. This verification must be done in relation to everything currently being done, but people do not want to.

[*English*]

The Chair: Mr. Zimmer.

Mr. Bob Zimmer (Prince George—Peace River, CPC): Thanks to the guests for coming today and appearing at our committee. I feel like I need to defend GMOs. That is not what this conversation is totally about, but maybe I'll have time at the end. We can dig into that a bit.

My question is for Patty. What level of LLP does your organization support?

● (1155)

Ms. Patty Townsend: We have not yet established any threshold that we are ready to say we support at this point. We are saying that we need to get to work on that, so that whatever threshold of low-level presence gets established for grain doesn't impose requirements on us that the seed industry, as the foundation of the grain industry, cannot meet. Conversely, we're saying that whatever we develop for seed can't put in place thresholds that are so high that the grain industry can't trade.

Mr. Bob Zimmer: I definitely understand, as Frank said, the desire to keep separate organics and GMOs.

From a practical standpoint, and you alluded to this in your comment, is zero tolerance a practical position to take in this day and age?

Ms. Patty Townsend: No. Given the level of production, where it's being produced, how many acres are in production, and by how many farmers, the increase in research and development, even in developing countries like China and others, of GM or GE products that are meant to serve only domestic markets but that move in the same trucks and are handled by the same farmers, we do not believe zero.... The testing levels that they now use—as I just mentioned, one was .00009%. It is not practical to require absolute zero.

Mr. Bob Zimmer: That leads to my next question. Without a practical LLP policy, would Canada still be able to feed the world as we do? I'm asking that in a leading way, obviously. It's pointing to GMOs and what they've really added to the world, I would suggest. Being able to grow crops where they were not able to grow them, to do it with less diesel, with no-till varieties, and with less pesticide use—the benefits of GMOs go on and on. Our ability to feed the world demands that we do some things more efficiently. I wanted to know if we would still be able to do that if we completely eliminated the GMO product, or seed off the shelf.

Ms. Patty Townsend: Let's start by looking at the challenges. First of all, the world's farmers, not just Canada's but the world's farmers, need to more than double their production within 40 years to be able to feed the population that we're expecting to have on this lovely planet.

Mr. Bob Zimmer: Can you repeat that one more time?

Ms. Patty Townsend: We have to more than double our production within the next 40 years. We have to do it on essentially the same land base. There's not a lot of land left that we can bring into agricultural production. There's competition for that land from urban development. We have to do it while being challenged by climate change. Pests are now being found in areas where they were never found before because of changes in temperatures and climate. We have to do it with a decreasing share of the world's water, because the competition for water is increasing. We have to do it while our ability to use resources for fertilizer is being affected. It's been said that the world's sources of potassium and some other fertilizers are past their peak production now.

Given those challenges, and given the fact that we need to double our production in 40 years, I don't think we can do it without new technology. It's not just what has been classically defined as genetically enhanced or genetically modified or recombinant DNA technology. There are all kinds of new breeding techniques that are now being explored to ensure that we can leave a smaller environmental footprint, produce more food, and make it healthier and safer.

The Chair: Thank you.

Due to time constraints, I'll have to thank our guests for being here today. Merci.

They were great presentations, and it was a very stimulating conversation, so I thank you for your time.

We're going to take a short recess while our new guests settle in. The committee is suspended for two minutes.

● (1155)

(Pause)

● (1205)

The Chair: Welcome back to the second hour.

Joining us today from the Canada Organic Trade Association is Mr. Matthew Holmes, executive director. Joining us by video conference from Guelph, Ontario, as an individual, is Mr. Rene Van Acker, professor in the department of plant agriculture at the University of Guelph.

Welcome, both of you.

We will start with Mr. Holmes and then move to Mr. Van Acker. We're looking for a presentation of roughly nine to ten minutes. Then we'll move to questions.

Mr. Holmes.

Mr. Matthew Holmes (Executive Director, Canada Organic Trade Association): Thank you, Mr. Chair and honourable members.

It's my pleasure to again be before you representing Canada's organic sector and speaking on proposed policies on low-level presence of GM crops in feed and food.

First, I would like to brief you on where the organic sector stands today.

The latest global figures, released just two weeks ago, show that the world organic market is now valued at $63 billion per year in consumer sales. Canada is now the fourth-largest market in the world for organic, valued conservatively at $2.6 billion to $3 billion per year, and is among the top 10 countries by consumer spending on organic food.

Production is also increasing. If we look at the *2011 Census of Agriculture*, we see that total farm numbers in Canada have declined since 2001 by 17%, while the total number of certified organic farms has increased by 66.5%. Organic farms support family farms and provide them with market opportunities at home and abroad. Organic offers a compelling agricultural success story that shows no signs of slowing. Organic can help revitalize our rural economies, feed our cities, and provide lucrative opportunities at export.

The committee has heard already from a number of experts on the proposed LLP policy. Like many such issues, it is rife with complexity, with minutiae, and, as I'm sure it feels at times, with angels dancing on the head of a pin, so my approach here will be to take a step back and apply what logic I can to the proposal.

The stated objective of the policy is to facilitate trade: to remove technical irritants that could result in hypothetical products being barred from entry at our own borders at some time in the future. Incredible amounts of time and money have already been spent to create and consult on a solution for a problem we have yet to encounter, at least at import.

Of course, we've encountered LLP issues with our own exports, but it's questionable that the countries currently blocking GMOs in this way will change their tune just because we've lowered our standards. In fact, Germany is already on record as stating that it will oppose any EU move to allow LLP for food, so perhaps more importantly from my perspective, from my sector's perspective, the proposed LLP policy brings with it the danger it would have for the organic sector, the exact opposite effect of the one it is intended to have.

An LLP will introduce new, unknown, and untested GMOs into Canada. It will increase the exposure of organic farms and manufacturers to contamination from GMOs, which are prohibited under our production system. Also, it will create an environment of heightened scrutiny and suspicion of Canadian exports, which will invariably result in increased costs for producer and trader and inhibit the progress we've made in market access.

I would be remiss if I did not also point out that the genesis, or the seed, if you will, of this proposal is based on concerns around continued market access.

For many years, the organic sector has asked for market access and economic impact considerations to be used in the approval of GMOs. We have lost many products and markets we used to have due to the introduction of these innovations. We have been told repeatedly that such demands do not hum along with the mantra of a science-based approach to approving plants with novel traits.Yet we now find ourselves debating a proposal that, at its heart, stems from concerns that markets we sell to do not necessarily want some of the products we are growing.

That was my preamble, Mr. Chair. I'm cognizant of the time you have granted me, so for the rest of my remarks I wish to focus on insights and recommendations for an LLP policy.

It's my opinion that an LLP policy might be realized in a way that ensures this government's commitment to accountability and transparency is upheld. The LLP policy proposes to accept that any GMO product that has been approved in a way that is consistent with the codex guidelines should be permissible if present below a certain limit.

Codex currently has 185 member countries, including many that make the nightly news, such as Zimbabwe, Mali, Iran, and China. I don't think any of us are in the practice of buying baby formula from China these days, and this of course has nothing to do with China's regulatory rigour; however, there is a certain trust deficit that emerges somewhere between what's on the books and what's on the plates. It is reasonable, I think, to predict that Canadians will have some concern that Health Canada is no longer reviewing and approving crops with novel traits, as proposed in this policy.

This would be the first instance of what I would call the “accountability gap” that's in the current policy and that I think could be addressed. We are tacitly approving things from a foreign jurisdiction that may or may not meet our standards in practice, regardless of how codex guidelines have been implemented. In the short term, we are washing our hands of due process and regulatory responsibility, but perhaps also, in the future, we could be undermining our right to use domestic requirements to vet such products.

● (1210)

The proposed LLP policy also includes crop-specific threshold levels, a higher tolerance than the basic action level, which is determined by what is deemed practical or possible by an industry advisory body. So first we allow China to approve which GMOs are allowed into Canada, and then we ask the industry that brought them here what they think is an acceptable level of contamination. The accountability gap just widened considerably, from our perspective. Meanwhile, with Canada as the first self-declared LLP safe zone, any rejected shipment in the world will be redirected here for safe dumping.

There are, however, ways to mitigate this accountability gap, even with an LLP policy. You have heard that an LLP is necessary, even unavoidable. You have been told that we must establish a threshold because the damage is already done. But one need only look at Canada's only other LLP precedents in agrifood to understand that this can be managed in a different way.

Health Canada and CFIA already require the food sector to maintain trace maximum thresholds far below the 0.1% proposed here by an order of magnitude. A number of allergens and regulated foods—gluten, THC levels in hemp seeds—are required to be under 0.001%, or 10 ppm. The industry responds to this requirement. They can. The industry tests and the industry can maintain this through proper controls and best management practices in place. But these types of protocols are not included in this policy.

In order to meet its own commitments on accountability, transparency, and communication, I would argue that the government ought to bridge the accountability gap in this proposal. The organic sector in Canada faces a disproportionate share of the burden from GMO contamination and LLP: in testing, in loss of product designation, and in loss of markets. If an LLP of 0.1% is to be introduced in Canada, as a minimum the organic sector requires and calls for the following:

1. Full and routine public testing of imports for GMOs;

2. Publication and communication of the incidence, the crop, the importer, and the country of origin of the crop, and whether that has come within the action or threshold limits;

3. Regular and specific reporting of this information to the organic sector so that our producers, handlers, and manufacturers may pursue best management practices and targeted testing in an effort to protect our products from further contamination;

And finally, with respect, I would recommend that we look to the lead of the United States and Secretary Vilsack in striking the AC21 committee to investigate the means with which to manage risk and compensate farmers whose crops and products are contaminated by unintentional GM events.

Thank you for your time and attention.

● (1215)

The Chair: Thank you.

Professor Van Acker, welcome.

Dr. Rene Van Acker (Professor, Department of Plant Agriculture, University of Guelph, As an Individual): Thank you very much. I appreciate the opportunity to present to the committee today.

As a little bit of background on myself, I'm associate dean and professor here at the Ontario Agricultural College, and I was previously a professor at the University of Manitoba. I've worked on coexistence of GM and non-GM and movement of traits from crop to crop for over a decade, here and in various other places around the world. I've also been involved in conferences for over a decade looking at coexistence of GM and non-GM.

I want to make some comments about the mechanics of trait movement based on research and experience to date. In North America there is more than a decade of experience with commercial production of GM crops. This has provided two key lessons. One is that when GM crops are grown outside at commercial scale, the movement of GM traits beyond their intended destinations can be expected, and the risk of escape increases with the scale of production. Second, full retraction of escaped GM traits is very difficult and may be impossible if escape is into a broader agricultural supply chain.

These points support the need for caution, serious consideration, and systematic efforts where there is a hope, expectation, or requirement of coexistence between GM and non-GM crops, and commercial segregation, especially for situations where a GM trait is regulated or other situations where there is a zero threshold for adventitious presence. Recent scientific publications have noted that since the first GM crops were commercialized in the mid-1990s, reports of GM material appearing where it's not intended, expected, or wanted have steadily increased, reflecting both the massive increase in production acres of GM crops and the number of GM crops commercialized, and perhaps in some cases, an under-estimation of the challenge of containing GM traits.

GM trait movement is especially complex within large agricultural supply chains that involve many actors and living elements across an active landscape. Traits may persist and move among living populations of plants, including feral and volunteer populations, and among latent populations in seed that may exist in a myriad of places within the production and supply chain and that may persist in the environment.

The potential for the movement of GM material depends in part on the nature of the crop species and the biology and ecology of those species in relation to the agronomy and farming practices. A primarily self-pollinating crop like wheat, for example, may represent the least challenging scenario, whereas highly out-crossing and persistent species like alfalfa or canola may be the most challenging. Placement along this continuum depends very much, again, on the biology and ecology of these crops in the context of their farming systems and the nature of the supply chains they move in.

In the context of low-level presence requirements, an additional and important consideration is the threshold level, of course. What is generally acknowledged in this regard is that when a given GM crop is commercially grown at substantive scale within a region, maintaining absolute freedom from GM for that crop species in that region becomes very challenging, and in some cases impossible.

In Canada we have the most experience with GM canola. It has been grown in western Canada since 1995, and currently well over 90% of the canola grown in western Canada is GM. By 1998, only four years after the start of cultivation, GM traits were already stacking within volunteer canola plants, and by 2007 the stacking of GM traits in escaped and possibly feral roadside populations of canola had also been documented. This was evidence of the effectiveness of GM trait movement within metapopulations in the landscape and through agricultural supply chains. Recently there was evidence of GM canola having moved through broad areas within the U.S., primarily along the Canada-U.S. border and along grain transportation routes. In addition, GM canola has been found commonly in shipping ports in both exporting and receiving countries, such as Japan.

The movement of GM traits within canola is a function of biology and ecology, the way in which canola is farmed, the farming system, and how canola is handled within supply chains, including the production of seed. There has been so much GM trait movement in canola in western Canada that farmers in this region have come to expect the appearance of unintended GM traits in their canola in all cases. The eventual adventitious presence of unintended GM traits in certified canola seed lots shows the extent to which all GM traits were pervasive in all canola in western Canada.

● (1220)

Some of the canola seed lots had unintended GM traits present at very high levels, approaching 5%. Given current knowledge of pollen-mediated gene flow, it's unlikely that this caused that high a level of presence in a single generation. We would expect, at most, 0.1%. Given the strict seed production and isolation protocols, if seed lots had above 0.25%, it was likely the result of inadvertent mechanical mixing of certified seed during harvest or handling.

In Denmark, an analysis of the possibility of achieving coexistence of GM and non-GM canola concluded that it would be difficult and perhaps impossible.

The two vectors of GM material movement are pollen and seed. Gene flow tends to occur over shorter distances, generally, but pollen can be carried over long distances by wind or pollinators. The distance for effective pollen-mediated gene flow depends on many factors, including the species, its out-crossing nature, the size and weight of pollen, the size of the pollen source, and weather. There is relatively good modelling of pollen-mediated gene flow for a variety of crops. However, those establishing protocols to prevent GM material from escaping have generally relied on traditional isolation distances for given crops taken from certified seed production standards, which may not be suited to the confinement task depending on the required threshold. If the threshold is very low —0.1% or lower, for example—seed production standards are not likely adequate. Seed movement is another means of GM material moving, or admixture. Seeds may travel great distances when crops are transported by humans, either knowingly or unknowingly.

Relatively little research has been done on the nature of seed movement of GM material, movement that is often related to human involvement or, in some cases, human error. In terms of seed movement, certainly complete separation of operations is acknowledged as a prudent means of working towards successful coexistence and maintaining GM-free material. Starting with absolutely clean seed is critical. Stringent separation of GM-free seed production from any sort of GM crop farming or handling, along with frequent testing, are required in this regard.

The persistence of seeds of GM crops is also an important consideration for GM trait escape and movement. After a crop has been harvested, volunteer and feral GM populations can appear in subsequent years and act as a place for GM traits to come from or escape to. In this sense, for crop species that have large and robust volunteer and feral populations, like alfalfa, for example, and especially for crops that produce very persistent seed banks, like canola, for example, a metapopulation for a given GM trait may arise within a given region. The ability of GM material to entrench itself in a system can be seen in western Canada, where a high proportion of feral populations of canola are GM, and those populations are accumulating multiple GM traits. For flax, since the Triffid GM-flax escape in 2009, researchers have shown that there is now a low level of GM flax, about one in 100,000, in the Canadian flax system that will likely be impossible to eradicate.

The segregation of GM and non-GM crops occurs throughout the world in scenarios both where coexistence is regulated and where it is not. In the case of jurisdictions where coexistence is not ensured by law, default is for the onus of segregation to be on the farmer or business operator who wishes to remain GM-free.

In Canada, when a GM crop is deregulated it is assigned unconfined release status. This removes any requirements for containment or confinement of that GM crop or GM material coming from that crop. In this case, those who wish to remain GM-free are recommended to employ a range of means, a system, to prevent incursion of GM materials.

After more than a decade of GM crop cultivation and decades of study of GM crops, it is now generally acknowledged that when GM crops are grown outside at a commercial scale, the movement of GM traits beyond their intended destinations can be expected and the risk of escape increases with the scale of production. Full retraction of escaped GM traits is difficult and may be impossible if escape is into the broader agricultural supply chain.

Since GM crops were first commercialized, reports of GM material appearing where it is not intended, expected, or wanted have steadily increased. With respect to GM crops, the nature of the crop, including its out-crossing ability and its ability to persist in the environment help to determine how difficult it will be to contain GM traits in this crop or to retract them after escape. There is an abundance of evidence from around the world that GM traits escape and end up where they are not intended, expected, or wanted. They move in one of two ways: either by pollen-mediated gene flow or by seed. PMGF—pollen-mediated gene flow—has been substantively studied, and the results of these studies show that it's common and can occur at low levels at long distances. There has been much less study of seed-mediated GM trait movement, but experts acknowledge that it occurs and that human error often plays a role.

● (1225)

After escape, GM traits can persist for a long time in the environment, even without new seed additions. Preventing GM crops from appearing where they're not expected or wanted is regulated in some jurisdictions. In these cases, segregation rights are protected in law, and there are formal recourse compensation mechanisms and also requirements for communication and full transparency about where GM crops are being grown, so that neighbours growing or not growing GM crops can prepare and work to prevent adventitious presence.

In areas where there is no regulated coexistence and where deregulated GM crops have unconfined release, the onus is on GM farmers or businesses to protect non-GM farmers or businesses from GM material incursion. These farmers and business operators use a variety of means and a systems approach in order to prevent the incursion of GM material or to confine GM material. It's understood by experts that GM containment and preventing incursions of GM material is challenging and that no single means of segregation or containment is sufficient to effectively contain GM material, especially in cases where low levels of escape can cause harm.

Thank you.

The Chair: Mr. Allen.

Mr. Malcolm Allen (Welland, NDP): Thank you, Chair.

And thank you both. These were interesting presentations, from both of you actually—especially, Professor Van Acker, this issue about the science of the unintended consequence, if you will. When a material is introduced, it's expected to do something, but unfortunately it may move—and does, according to the studies you're quoting and some of the studies you have performed yourself. I noticed in your written brief that you have actually participated in many of the studies. As much as we may not want it to, the material does move, and with that movement there is a potential for it to be where we don't want it to be, I suppose. I don't want to call it a risk per se.

Based on the fact that it does move, are there things, in your view, that we can do to mitigate the fact that it's in places we don't want it? You cited canola as being in the roadside, for instance. Most farmers aren't harvesting the roadside; it's simply there. Are there things that in your view we can look at to try to mitigate that movement, this particular unintended consequence?

Dr. Rene Van Acker: Backing up from that a little bit, I guess the first question is whether there is a requirement for us to prevent that movement or not. Currently, when we de-regulate and commercialize a GM crop in Canada, for example, there is no requirement to prevent movement, so I guess we'd have to start with a requirement. The discussion has been more about those who want to prevent incursion than about those who want to prevent movement in the first place.

One good place to start is clean seed. We can see, for example in the case of Triffid flax, that the flax industry went right to the seed first and worked with the seed suppliers and the University of Saskatchewan to ensure clean breeder seed, and then worked with farmers to strongly encourage a movement to the use of new, clean, certified seed. That's one important thing, I would say.

● (1230)

Mr. Malcolm Allen: Thank you very much for that. I agree.

In your paper, which came to us earlier, you talked about the Danes saying “here it is by regulation”, whereas we are almost in a commercial place in which it's farmer to farmer, neighbour to neighbour, if you will.

Let me go to Mr. Holmes. You laid out some pieces, saying that if LLP were to be, here is what you thought, from your organization's perspective, needed to be done. Let me say what I've heard more than once at this committee from groups.

I'm not trying to be flippant about this, but it reminds me of one of the stories we used to tell our kids about “not too soft and not too hard”. We've heard that while it can't be too high and shouldn't be too low in this present case, it's science-based.

It seems to me, if I recollect the science of things, that usually you get a number. You may get a variation, but science doesn't give you “not too low” and “not too high”. That's not actually science; that's the “I would like” something or other—“I don't want my porridge to be too hot and I don't want my porridge to be too cold, I want it to be just right”—which is really about how to market rather than how to do anything else.

I'm going to ask you this specific question. Regardless of what one thinks about GM, if one just accepts the science that it's actually safe—we'll take that as the piece to say both parties agree that it's safe—but if one party says “I don't want it”, how do you enter into a commercial agreement? I don't care whether they don't want it because of a trade barrier or have just decided that their population doesn't want it. What are we doing to ourselves with a group whom we may want to trade with—in this case the EU, which is 500 million people, though we have to see the agreement on the table—when they have decided they don't want it? They are not saying it's unsafe; they just say they don't want it.

It's like Heinz's and Campbell's soup. Which one do you want? “I don't want that one; I want this one.” Am I not the customer? Do I not have a right to say as a customer what I want? Isn't that a legitimate piece that's not being asked at the moment? At least in my view it is.

I'll let you comment on that big piece there.

Mr. Matthew Holmes: That's a beautiful question.

Goldilocks was an imposter and a trespasser, so I won't go there.

Voices: Oh, oh!

Mr. Matthew Holmes: But the situation with the EU is clear, and it is the one the organic sector has been facing for some time. Wherever you happen to be on the philosophical or practical side of this question, the customer is right and you need to provide customers with what they want. In the organic sector we've seen time and again, wherever there is some adventitious presence or LLP of some kind, the product is gone: you have lost that market, you have lost your organic designation, and you're lucky if you can sell it as feed.

This is certainly compounded for the organic sector. It is something that all of agriculture faces. And with regard to the question you asked on the science of the number, the answer comes back to my comments that we've moved from a science-based approach, which has been the call for many years now, to a market access approach. There are many reasons to look at market access considerations when discussing GM, but I have yet to find, from the officials drafting this policy, whom I have consulted, to the industry that is speaking in favour of it, the scientific basis for any of the thresholds presented here.

The Chair: Thank you.

Mr. Richards.

Mr. Blake Richards (Wild Rose, CPC): Thanks, Mr. Chair.

Thank you both for being here, or virtually here.

I will start with you, Mr. Van Acker. I want to ask a couple of questions that touch on some things you said in your opening remarks.

One thing you talked about was canola and its prevalence in western Canada. It has obviously been a huge success story. Many producers in western Canada looked at canola as an option when they were looking at ways to avoid the restrictions put on their marketing of their wheat and barley because of the Canadian Wheat Board. Obviously, we as a government have opened that market up, and yet we find that many producers are still looking at canola because it has become a great success story.

What you said in your opening remarks was that well over 90% of the canola grown in western Canada is genetically modified. I would think that GM seeds would cost more, both in the research phase and in production as well, and yet clearly farmers have overwhelmingly chosen to grow GM products.

I wonder whether you could tell us what you think the reasons for that are.

● (1235)

Dr. Rene Van Acker: Certainly, the adoption of GM canola was very rapid in western Canada. In fact, there's published work to show, through farmer surveys, that farmers chose GM canola because of operational benefits. Translated, that means they found GM canola easier to farm, and it provided better weed control than non-GM canola, in particular Roundup Ready canola, but even LibertyLink canola.

So farmers—and it's been documented—have acknowledged that it was an agronomic advantage to them to have GM canola in their farming systems, so much so that canola went from being a crop that you grew in your cleanest fields to being a crop that you could grow to help to clean up fields with respect to weeds. There's been a tremendous change. Yes, it's been a great success.

Mr. Blake Richards: You also indicated that it's generally accepted now that completely preventing GM traits from, as you put it, escaping is impossible. You also indicated that the risk of escape increases with the scale of production. Obviously, with over 90% of the canola in western Canada being genetically modified, the scale of production is quite high. We know there's an increasing number of different varieties being grown. You, of course, indicated a few examples of those varieties in your response to my previous question.

I'm wondering if you could give us your opinion on whether, given those factors, we can actually realistically expect to be able to meet something like a zero-tolerance policy. Perhaps you can elaborate on why you would believe that's the case.

Dr. Rene Van Acker: Certainly, for the case of canola in western Canada, it would be exceedingly difficult to guarantee GM-free canola grown in that region. I would almost say that at a commercial scale it might be impossible to do that, because there's so much of it throughout the system.

For other situations, other crops, where that's not the case yet, that can perhaps still be a possibility. But within a given region, as you increase the scale of a certain GM crop being grown, it becomes more and more difficult to maintain segregation and to meet really low thresholds, especially if it's an out-crossing species where pollen movement can be relatively long distance. Maintaining an absolute zero becomes increasingly difficult. For canola in western Canada currently, I wouldn't attempt it. I think it would be very hard to do.

The Chair: Thank you.

Mr. Valeriote.

Mr. Frank Valeriote: Thank you, Matthew and Rene, for coming before the committee. I very much appreciated your presentations. They were, frankly, remarkable.

Rene, you spoke of the Danish model and the regulations they have. They clearly identified quickly what their preferences were and what they were prepared to do.

Again, I'm going to make it clear: I eat GM; I understand the argument about GM. But I also very much appreciate and will defend the right to coexistence, so that organics can grow, and grow safely, for lack of a better word, without contamination, to feed the market they prefer to feed.

It seems, though, in Canada that you talk about our taking a default position, basically placing it on the non-GM farmer to make sure their crops remain GM-free, which has made it rather onerous for them.

Is it too late to go back to the Denmark model? Is it too late to introduce regulations? With certain crops you said there may be a zero-tolerance level that could be achieved, whereas with canola there can't be. That has to be acknowledged. Is it too late, or is the toothpaste out of the tube, as I asked one of the previous witnesses? Is it too late to go back?

● (1240)

Dr. Rene Van Acker: That's a good question. I think the answer depends on the threshold and the crop. If the threshold is, let's say, zero and the crop is canola, I would suggest it's probably too late. That may also be the case for flax, though, given recent studies out of the University of Saskatchewan. If the threshold is something above zero, it may not be too late.

The other question is, what is the threshold in relation to? Is it in relation to regulated GM events or deregulated GM events? Here there is a difference between LLP proposals and other thresholds. The EU's policy on 0.9% as a threshold for the presence of GM material in non-GM crops or food is really related to events that they have deregulated themselves. Then they will allow a 0.9% presence, and that drives the labelling as well. It starts to become a little more complicated.

I'm sorry, I can't answer it straightforwardly like that, but those considerations all come into it. However, it's not too late, depending on the threshold levels and the purpose.

Mr. Frank Valeriote: All right. Is it practical for people from the organics and other industries to get together and sit down and talk about these thresholds and to talk about regulations, the way they have in Denmark, or is it just impractical to do that? That's one question.

The second question, before I get cut off, is this. I heard four conditions that Matthew had recited if we're to adopt an LLP policy. They seem reasonable to me. It's about transparency, reporting, and disclosure. I'm wondering if you heard them and if you could comment on them.

Dr. Rene Van Acker: On the first question, of course, the Danish model is a decision by the nation state and not a subset thereof. Yes, the organic sector could get together and discuss this, but I'm sure their issues would be what are their protections and their recourse mechanisms and where are those set; are those set in law, or do they have to just do them ad hoc? That would probably be a question.

The other thing is that the organic sector operates under a zero threshold, and I don't know what movement there is around that, or whether there is movement around that. So that would be another question.

The Chair: Mr. Hoback.

● (1245)

Mr. Randy Hoback (Prince Albert, CPC): Thank you, Mr. Chair, and thank you, gentlemen, for being here this afternoon.

I must say, I agree with Mr. Valeriote. I know we've had private conversations about how there must be a way to allow the organics and the non-organics to function properly together in a way that they both survive, and not only that but thrive.

When you define LLP, what we're talking about is not allowing product that's unsafe to eat to be the foreign content. Let me make that clear. It has to be product that is still considered safe to eat. Therefore, if it's 0.1% or 0.2%, or whatever number you should so choose, even that foreign content is still considered safe to eat in Canada.

When I look at the long-term viability of the organic sector and the pressures that are going to be on our agriculture sector over the next 20 years, I look at the organics wondering why they're not embracing this and looking for this as a way to allow them to survive as they move forward, because there will always be pressure on them now to have zero content, which is not something they can possibly sustain going 10, 15, or 20 years out.

As Mr. Van Acker talked about, as you see more commercialization of different GMOs or different products in other crops, it becomes tougher and tougher to keep them segregated. I just find that really amazing.

One of the things we have to face in the agriculture committee, in Canada, and around the world is a growing population, and Ms. Townsend, in the previous committee meeting, talked about this.

I look at the organic sector. Mr. Van Acker, you're from Guelph, so maybe I'll take advantage of your expertise in Guelph. Have you seen any research in Guelph, or anywhere else in the world, where we've doubled or tripled the output per acre in organics?

Dr. Rene Van Acker: I guess it depends on the operation and the intensity of the operation.

Mr. Randy Hoback: Let's just look at the canola sector. I'll use that as a good example. We went from using it for weed control, which was the big bang, to getting into no-tillage. Canola that was Roundup resistant allowed us to control grassy weeds. It allowed a new type of weed control. Chemicals like QR5 and Edge and Treflan had tremendous leaching issues. We're actually preventing soil degradation by moving that way.

If you look at the organic matter and soil after you started two, three, five years of production in no-tillage, you can see there was a tremendous environmental impact from embracing that technology. Not only that, the technology grows and gets better and better. We now have LibertyLink and new varieties coming out. It used to be that if you could get 25, 30 bushels an acre of canola, that was a great crop. Now if we can't get 55 or 60 bushels an acre, it's a disaster.

So I look at that and I see that coming forward, and these are the steps that are going to feed the world. I still want to respect, as Malcolm says, the right of the individual and the market to decide. If I want to eat something closer to home or something that is produced in a former fashion or in an organic sector...I respect that.

How do you do both? That's what we need to get our heads around. How will the organics meet us at the table so that we can do both? Right now, from what I see with the zero tolerance and the comments Mr. Holmes made about market access, it's not a market access approach. It's a science-based approach to get market access. We have problems with market access when politics gets involved. When politicians decide that we're not going to allow this to happen, we ask why. They can't tell you why, and they don't have the science to back it up.

When I look at the food that hits this table, I have to make sure it's safe to eat. I really don't care if it's organic or non-organic. I don't care. I just want to know that when a baby, or my kids, or somebody else puts that food in their mouth it's safe to eat. How you market your product, that's up to you. In fact the Canadian government helps out a lot. We put the standards in place to ensure that if you're growing organics you at least have the code of conduct of an organic farmer.

We don't endorse any one system over another. Why are you asking us to do that now in refusing to look at low-level presence?

The Chair: Mr. Holmes.

Mr. Matthew Holmes: I could have come here with a position of purism. I think the committee needs to take a moment to reflect that I did not do that. I did not come to your table today—

Mr. Randy Hoback: Are you saying you're willing to look at low-level presence as an option?

Mr. Matthew Holmes: What I'm saying is that if you're looking at a low-level presence in GMO policy, you need to have a comprehensive approach. It's not just coexistence, which is allowing GM to run rampant everywhere and we get to shovel out the stable. It's about a comprehensive approach where there's shared responsibility on all sides. I think that's reasonable and practical.

Mr. Randy Hoback: Let's come back to my approach.

Mr. Matthew Holmes: Would you feed your baby—

Mr. Randy Hoback: My approach is to make sure that when the food hits the table it's safe.

Mr. Matthew Holmes: —baby formula from China?

Mr. Frank Valeriote: Let him finish.

Mr. Randy Hoback: Let me get my point across. I have my five minutes and I'll make my point.

I have to make sure that the food is safe. That's my priority as a parliamentarian, as a government regulator. That is our role and responsibility. It is not to decide how you market your products.

So why are you asking us to get involved in how to market products?

● (1250)

Mr. Matthew Holmes: That's what we're being asked. We're being told that there's a market entry problem and that we should enable that problem by lowering our thresholds and standards.

What I'm saying, though, is that this would be the first example I'm aware of where we would hand over our government's responsibility to determine what is safe for our citizens and give it to some other jurisdiction. Why would we start that now?

Mr. Randy Hoback: Let me get back to you. When we talk low-level presence—

The Chair: I'm going to interrupt there.

Mr. Randy Hoback: —we're talking about what content is already considered safe for human consumption.

The Chair: Order, please. Order.

With that, I'll thank our guests for being here. We appreciate your presentation, and we understand that this is a very complex issue. Thank you very much for your participation.

We're going to take a very short break to come back to Mr. Hoback's motion.

[*Proceedings continue in camera*]