House of Commons
CANADA

Standing Committee on Agriculture and Agri-Food

AGRI • NUMBER 051 • 3rd SESSION • 40th PARLIAMENT

EVIDENCE

Thursday, February 17, 2011

Chair

Mr. Larry Miller

Standing Committee on Agriculture and Agri-Food

Thursday, February 17, 2011

● (1100)

[*English*]

The Chair (Mr. Larry Miller (Bruce—Grey—Owen Sound, CPC)): We'll call our meeting to order.

I'd like to thank our witnesses for being here today. With no further ado, we're going to move into presentations.

Hon. Wayne Easter (Malpeque, Lib.): Mr. Chair, could I make a suggestion that the more we do this study, I do think we should consider inviting somebody from Health Canada who is involved in assessing GMO products and non-GMO products, and have them as a witness at some point.

The Chair: That's not a problem, Wayne, but what I'd suggest is just submit that. That's no problem. I would be surprised if they weren't already on the list.

Hon. Wayne Easter: No, they are not.

Good.

The Chair: We'll move to the first presenter, Greg Patterson, president and chief executive officer of A&L Canada Laboratories, for 10 minutes or less, please.

Mr. Greg Patterson (President and Chief Executive Officer, A&L Canada Laboratories Inc.): Good morning.

I'm going to have most of the presentation done by Dr. Lazarovits, who is going to talk about our new initiative with A&L Biologicals.

I will first describe briefly who we are. We are an independent, Canadian-owned agricultural laboratory located in London, Ontario. We cover Canada coast to coast and other places around the globe.

The A&L Biologicals is a new biotechnical lab that we put together to study soil health.

I'm basically going to turn it over to Dr. Lazarovits so he can explain what we're doing and what it all means to production agriculture.

Mr. George Lazarovits (Research Director, A&L Canada Laboratories Inc.): Thank you very much. We really appreciate being invited here.

A&L Canada Laboratories was primarily an organization that dealt with the examination of chemical constituents used in agriculture: nitrogen, phosphorus, and potassium. Over the years there has been a lot greater demand from growers as to things like diagnostics of plant diseases. With molecular technologies, these can be done now very accurately and very rapidly, so in our biologicals of primary interest will be rapid diagnostics of crop diseases where growers consider these to be threatening to their crops. In addition, we will try to offer knowledgeable advice on treatment of these diseases and what they can do to mitigate crop losses.

The second area of business that we will be doing is research. A large number of grower groups come to us complaining about things like tired soil. We can't recommend vacations for their soils, but we're hoping to find out why soils get tired. This really means that for their soils, even though they are using conventional levels of fertilizer at the recommended rates, the yields keep coming down and down. Growers often call these areas in their fields hot spots. One of our efforts will be to find out how to increase the productivity of the soils over a uniform area in the farm production zone.

What we are focusing on is the microbiology that's present in soil, an area that's been overlooked for about 100 years in agriculture. What is present in a soil that makes it a healthy system?

This is becoming very important in humans too, of course—the probiotics movement. Instead of using chemicals, you use good bacteria, which we still don't understand in agriculture, but this would be the focus. For this we are using molecular technologies, because there are hundreds of millions of bacteria in the soil, and to understand who they are and what they do, you need this kind of technology.

Last, we are looking at companies that are underrepresented in Canadian agriculture. There are many companies that have small products available to them; that is, they have one or two organisms that maybe are useful but they don't know how to reach the growers. A&L has a huge reservoir of growers who would love to use these products, but these people don't have salesmen. They don't know what the market is, and we're trying to link their products to the growing industry, and hopefully with the benefit of all of our work we will reduce grower cost.

To give you an example of some of the things we will be doing, we will be testing soils using grafted tomato plants now to look at the tomato and vine decline in southwestern Ontario, which services the ketchup industry. What we are finding is their yields have been declining consistently over the last decade, and we don't know why. By using grafted plants, in conjunction with the University of Guelph, we are finding that we can increase yields by up to 40% or 50% just by changing the root system, so our efforts will be to look at how we can change the root systems.

All of this work, as I said, will involve molecular technologies because that's how we can follow things that occur in soil. We are trying to find lines that say your soil is getting better or worse based on the microbial fingerprinting that we are about to undertake.

I will leave it at that, sir.

● (1105)

The Chair: Thank you very much.

I'll move to the Canadian Organic Growers and Mr. Arnold Taylor. Ten minutes or less, please.

Mr. Arnold Taylor (Past President, Canadian Organic Growers): Mr. Chairman, I hope you don't start the clock quite yet.

I had a brief put in on Bill C-474, which I'll call Bill XYZ. I know it has not been passed, but David has copies available if anybody wants them. I won't be referring to that bill in my presentation, but there are references in there that you may want to look at. You can distribute them now or after. It's entirely up to the committee.

The Chair: Yes, I was aware that you had submitted it, but that bill is no longer being looked at by the committee, Mr. Taylor.

Mr. Arnold Taylor: Yes, I realize that. It isn't a sneaky way to get more debate in there. It's available to you, and you may find it useful. We could distribute it after, perhaps. If anybody wants it, he has copies.

The Chair: I'll leave that up to individual members if they want to ask for it, but that isn't before the committee. So if you want to continue on biotech, you have ten minutes, please.

Mr. Arnold Taylor: Okay.

I'm Arnold Taylor. I'm past president of the Canadian Organic Growers. I got out of that job a couple of months ago. I'm an organic farmer from Saskatchewan, and I work with my son and daughter-in-law. We have 3,500 acres, certified organic, and 100 certified organic beef cows.

As president of the Saskatchewan Organic Directorate in 2001 and 2002, I oversaw the organization's effort to launch a class action lawsuit on behalf of all Saskatchewan-based organic farmers against Monsanto and Bayer CropScience for economic and agronomic damages caused by their GE canola. Our organization was seeking compensation for the loss of organic canola, which was at a premium and is a high-value crop that was important in our crop rotations, which is a main method for weed control in organic systems, which prohibit synthetic herbicides.

In the mid-1990s, the Canadian Food Inspection Agency approved GE canola for confined release. I emphasize that. It was confined release and it was initially segregating GE and non-GE varieties in an effort to ensure safe marketability. Shortly thereafter, CFIA carelessly allowed unconfined environmental release, and GE canola cross-pollinated across the landscape and contaminated the germplasm of other non-GE and organic canola cultivars.

Studies indicate that virtually all canola in Canada has been contaminated with GE traits, and at that time, only six years into the production, the certified seed stocks were contaminated as high as 7%. This has adversely affected organic farmers and their markets. Globally organic standards, including Canadian ones, prohibit the use of GE as a method, and this has put our industry on a collision course with the introduction of GE technologies.

Ultimately, our proposed class action suit was rejected, largely because it was difficult to establish who was responsible for the damage caused by cross-pollination of GE crops and organic cultivars.

That is why Parliament must enact some appropriate measures to ensure that new GE crops do not adversely affect farmers and their markets. Had appropriate measures been in place prior to the release of GE canola, farmers and their markets, and Canadian agriculture as a whole, would have been spared much hardship and financial loss.

Enacting appropriate legislation to protect the rights of non-adopters of GE technology is long overdue in Canada. Currently our national regulatory system is deeply flawed and is arguably designed to benefit corporations that develop GE crops at the expense of organic farmers, non-adopters, and consumers as a whole. Market impact must be included in the overall assessment of this technology.

Indeed, history has shown us the dangers associated with a regulatory system that is solely science-based, and we now know that the current system is too narrow to properly evaluate the multitude of potentially adverse socio-economic impacts associated with this technology.

One of the flaws within the current regulatory system is that a number of federal departments oversee the regulation of GE crops in Canada. Although the CFIA plays the lead role, CFIA does a paper review of GE crops based on data submitted by the technology developer, peer-reviewed literature, and expert advice, but with no independent testing on the GE crops themselves because they're deemed substantially equivalent to non-GE varieties.

Regulatory approaches like the CFIA's, which are based on substantial equivalence, have been widely criticized as being pseudo-scientific because they presume GE crops' safety without any scientific basis and are largely based on industry data alone.

I'd like to read you just a short quote from a Dr. Millstone from Sussex University in England, talking about substantive equivalence. He calls it an anti-scientific test. He says:

> Substantial equivalence is a pseudo-scientific concept because it is a commercial and political judgement masquerading as if it were scientific. It is, moreover, inherently anti-scientific because it was created primarily to provide an excuse for not requiring biochemical or toxicological tests. It therefore serves to discourage and inhibit potentially informative scientific research.

● (1110)

After the commercial release of GE canola, Canadian experts now agree that this pre-release risk assessment failed to anticipate hazards associated with contamination, weed problems, and market harm. Indeed, a review of the Canadian experience with GE crops concludes that very little research has been carried out on the socio-economic impacts associated with this technology and that the Canadian regulatory system disregards the idea that GE crops will have well-known local and international market impacts as irresponsible and embarrassing.

We need to introduce a mechanism to assess and safeguard against adverse market harm caused by GE crops. I'm going to touch a little bit on GE wheat and flax. The proposed introduction of GE wheat is a perfect example of how the so-called science-based regulatory approach, which excludes such socio-economic factors as market harm, can put Canadian farmers and the agriculture industry as a whole at risk.

Between 2002 and 2004, Monsanto was pushing to introduce the world's first herbicide-tolerant variety of GE wheat. However, there was widespread opposition from consumers and Canadian export markets. Over 80% of the Canadian Wheat Board's buyers said they would not purchase GE wheat because of consumer concern over the crop, as Canada's so-called science-based regulations had no way to include this potential threat to export sales, valued between $4 billion and $6 billion annually.

Ultimately, due to the strong consumer and environmental backlash, Monsanto deferred the release of GE wheat, but it now appears that there is renewed interest to bring this crop to market, despite ongoing consumer and farmer resistance. GE wheat exposed the crisis in Canada's biotechnology regulations and almost cost Canadian agriculture billions of dollars in lost revenue.

With GE flax, our organic markets were also adversely affected by the variety GE Triffid flax, which was never commercially released in Canada but ended up contaminating seed supply and shutting down our markets in 35 countries worldwide. Flax is one of our highest-value crops, and as a result of confirmation of the contamination, our prices have fallen by 32%. Now, we have to test our crops, both at harvest and at seeding time, to maintain organic certification. This example demonstrates how GE crops can contaminate seed, conventional, and organic crops, causing risk and financial losses for farmers while adversely affecting the marketability of these crops.

Dr. Ian Mauro testified before this committee earlier. I encourage you to inform yourselves about Dr. Mauro's work, because he can tell you about a science-based way to assess market harm.

I have some final thoughts. I have spent most of the past ten years of my life fighting in the courts to protect organic farmers and my farm from GE crops. I should not have had to do this, as my government should have introduced adequate regulations to ensure that organic farmers are not adversely affected by the introduction of GE crops. We have lost the ability to grow canola. We could have lost flax because of the introduction of GE varieties. We could also lose our ability to grow wheat because of the introduction of GE varieties.

Now the industry is trying to introduce GE alfalfa. Arguably, the threat to organic alfalfa is the most significant yet, because it is a soil builder that fixes nitrogen and other essential nutrients. Were it to be contaminated with GE traits, this might destroy our way of farming entirely. GE alfalfa is not needed in agriculture, as it really offers no benefits for conventional or organic farmers and really is only designed to sell herbicides. As these new varieties are introduced, they basically remove that same crop from organic systems, which is detrimental, because we rely on this biodiversity in our crop rotations to ensure healthy and productive soil and crops.

Furthermore, as GE crops out-cross into organic systems, they destroy our ability to market our crops. Ironically, consumers the world over are demanding organic foods, and it's a fast-growing sector in the agriculture industry. Yet our opportunities for growth and farm-level prosperity have been adversely affected by the irresponsible manner in which GE technology has been introduced without proper regulation into the marketplace.

I encourage you to inform yourselves on the severe risks associated with leaving the current regulatory system regarding GE crops as it is. It is inadequate, it is causing harm to farmers in the food system, and Canada's reputation for offering exceptional food safety has been tarnished by experimenting with GE crops.

● (1115)

I encourage you to correct this. Appropriate legislation or appropriate measures need to be enacted to correct the mistakes of the past. It will also help to ensure that organic agriculture will continue to thrive, offering present and future generations the opportunity to access safe and healthy food that requires less in the way of inputs.

Increasingly, the importance of organic agriculture in creating a sustainable future for global society is being recognized, and it must be protected.

Thank you.

The Chair: Thank you very much.

We'll now move to a professor from Wilfrid Laurier University, Ms. Alison Blay-Palmer, for 10 minutes.

Dr. Alison Blay-Palmer (Associate Professor, Department of Geography and Environmental Studies, Wilfrid Laurier University): Thank you very much.

I'm an associate professor at Wilfred Laurier University in Waterloo. I'm here because I do research and teach about the global food system, and in this capacity I'm here to talk about biotechnology and the agrifood sector in Canada.

As a professor, I am wont to go off on tangents, so you are going to have to excuse me. To constrain my tangential nature, I'm going to read mostly from my notes today.

I'd like to thank you, first of all, for inviting me to provide comments on this very important matter. I appreciate your efforts to understand this incredibly complex issue and your recognition of the fact that there are multiple factors.

I'm glad to hear that health is becoming more of a consideration as you move forward; I think that's really positive.

It is up to you as parliamentarians to protect Canadian farmers, consumers, and our food industry. Part of this involves safeguarding our export markets. The agrifood system in Canada, as we all know, is critical to the economy. It represents one in eight jobs, and about 8.1% of our GDP, according to Agriculture and Agri-food Canada.

Within this context, there are three points I'd like to make to you today. The first concerns the cost of losing agricultural export markets; the second is the risk of being held responsible, if we do indeed lose those markets; and then I'd like to talk to you a little bit about the benefits of retaining non-GE crops for export.

First of all, with respect to cost, in the last decade there have been significant financial repercussions as borders have closed to products that were refused because of actual or potential contamination. As a result, taxpayers and farmers have suffered losses, from the flax contamination that Arnold just spoke about from Triffid seed, and also from feed contamination and the resulting BSE crisis.

These two cases are important to consider, as they raise relevant precedents for GE innovations going forward. While clearly the mad cow crisis is not related to GE technology, I'm raising this incident because it is instructive with respect to costs assumed by the Canadian government and its responsibility to protect agricultural markets and farmers' livelihoods.

With regard to cost, farmers lost over $4 billion because of increased processing costs and losses from reduced net exports; it cost taxpayers over $550 million as a result of federal and provincial recovery programs; and finally, there's a $7 billion class action suit on behalf of Saskatchewan, Alberta, and Ontario farmers against the federal government and a Winnipeg feed company, based on assertions that the federal government could have prevented BSE had it designed better feed regulations, had better safety reviews, and provided better oversight.

In the case of flax, the detection of GE content threatened the $320 million Canadian flax market into the EU for Canadian farmers. So far this oversight has cost us $1.9 million to implement a sorting and verification system. And this was due to contamination, as Arnold said, from seed that was destroyed over a decade ago.

There are similar cases in other jurisdictions. For example, if we look at the United States, it is estimated that StarLink cost U.S. corn producers up to $290 million in lost revenue, while LibertyLink GM rice market damage has been estimated at between $741 million on the lower end and up to $1.3 billion on the higher end.

Given these precedents and associated expectations, it would be reckless to ignore the economic cost of inappropriate agricultural policy decisions that allow the introduction of another crop, such as GE wheat, into the Canadian foodscape without detailed analysis of all the risks that need to be considered.

From here on out, for the rest of my presentation, I'm going to use GE wheat as an example of the potential downside for biotechnology crops. I'm focusing on wheat because it raises issues that we haven't yet confronted in agri-biotechnology in Canada.

The first is the size of the market. The cost for farmers in lost markets, if GE wheat were introduced, would be substantial. Using data from the Food and Agriculture Organization, I calculated the value of Canadian wheat sold to Japan and those EU countries that are either 100% GE-free or have regions within their countries that are so declared. The value of this market in 2007 totaled $738,111,000. If we include all of the EU countries, the market value jumps to $784,204,000.

If we take a worst-case scenario, based on a USDA survey of countries who said they would not accept GE wheat, the losses exceed $4 billion, based on 2007 numbers, and the only market that would be left to our farmers would be $288 million versus the potential $4.36 billion.

● (1120)

Our farmers could lose access to these secure markets if GE wheat is grown in Canada. As Furtan and Gray at the University of Saskatchewan put it, “there is no first adopter—rather GE creates a market for 'lemons', in this case, what the market would perceive to be inferior GE wheat”.

If we do introduce GE wheat, a 2010 study in the United States estimates that market prices would be between 41% and 57% lower than non-GE wheat. Given this example, there is no question that due diligence requires detailed knowledge with regard to the value of all export markets at risk.

Second are the actual product profile, premium, and marketing issues. Wheat is one of our largest export crops. In many ways, it defines Canada in the international marketplace. Canadian international food identity and food safety are linked to wheat. The Canadian Wheat Board encourages its farmers to identify their wheat as Canadian, and as such it commands a price premium of up to $3.36 extra per kilo over generic varieties.

Variations on the “Grown in Canada” labelling are repeated on packaging used by processors, including Archer Daniels Midland, for product destined for Asia, including China, and by other food processors and retailers in countries including the United States, the U.K., Mexico, Poland, and Japan.

Third is the nature of the issue. Wheat is not like canola, soybeans, or corn. GE wheat will be the first minimally processed GE food sold for human consumption. Unlike corn, soybeans, and canola, which often end up as highly processed food ingredients or as animal feed, wheat would be turned into flour for bread, pasta, or other products in which it would be the primary ingredient. Therefore, wheat puts us into a new realm with a huge potential downside. The same could be assumed for other foods such as fruit, like plums, which are being exported for GE technologies right now, and also vegetables, calling to mind, for example, eggplant.

On a more general level, the whole rationale for GE crops needs to be considered. With respect to the “GE will feed the world argument”, genetically engineered crops have been available for 10 years and we have more hungry people now than we did a decade ago. While we have seen the introduction of herbicide-resistant and pest-resistant crops, there are no GE crops on the market that address any issues related to world hunger.

In terms of production, there has been no perceptible increase in yields for farmers using GE crops. A 2009 report by the Union of Concerned Scientists, a group of internationally recognized scientists and business experts from respected institutions, including Harvard, Yale, and MIT, found, and I'm quoting here from the report:

> No currently available transgenic varieties enhance the intrinsic yield of any crops. The intrinsic yields of corn and soybeans did rise during the twentieth century, but not as a result of GE traits. Rather, they were due to successes in traditional breeding.

Weighing some hypothetical, very marginal yield gains—and here reported as non-existent—against catastrophic market losses, it is hard to justify putting more farmers at risk through the adoption of more GE crops. At this point there is no reason to allow more GE seeds to be used in the Canadian agrifood system. Objective science finds no yield benefits, and the downside is huge.

The agrifood system in Canada is critical to the economy. In such a competitive environment, why would we add the GE risk to the mix?

Finally, it's worth noting that GM crops, crop varieties, and the people who use them to make food acknowledge the marketability risks associated with GM. They have consistently lobbied against product labelling that would advise of GM content. It will not be possible to eliminate or even downplay GM content when wheat grain or other key ingredients are the primary and sole ingredient in food staples such as bread and pasta.

In approving additional GE seeds and products, you are accepting the burden of assessing economic risk on behalf of farmers who have absolutely no way of minimizing their market risks. The farmers themselves are unable to act completely collectively on this, and individual refusal to use GM seeds accomplishes nothing. In the case of contamination, markets will be closed. They have been before to Canadian farmers. The widespread and rapid movement of genetic materials means that only the state can intervene, so you as parliamentarians are the only people who are in a position to act and make something happen here.

That said, you either act or decide not to act. Either way, you've made a policy decision. If a sound case, based on objective third-party assessments, can substantiate that there are economic, environmental, and community benefits to adopting more GE food products, then wouldn't we? But in the meantime, why subject such a vital part of the Canadian economy to this added risk?

● (1125)

In fact, let's flip this around. Let's look at the upside of maintaining high standards of traditional product quality and purity. As has been shown with the examples of premium product labeling for export markets for existing Canadian wheat, Canada can and does differentiate our crops in a highly crowded marketplace. Having GE-free crops could allow our farmers to command a price premium.

GE-free crops will not only guarantee the markets farmers have worked hard to create over many decades, but could allow them a further advantage in expanding those markets. Why would we want to compromise our market position and our reputation?

Thank you very much for your time and attention.

The Chair: Thank you very much.

We now have Larry Black as an individual.

Larry, I think you appeared before us last spring in Manitoba.

You have up to ten minutes.

Mr. Larry Black (As an Individual): Thank you, Mr. Chairman.

Yes, I did appear before you then. I appreciate the opportunity to be here to address you today.

My name is Larry Black. I am an organic grain and dairy producer from southwestern Manitoba. I appreciate the opportunity to address the committee today on the subject of genetically modified organisms.

The recent approval of GM alfalfa in the U.S.A. and the threat of its release in Canada is of great concern to me for a number of reasons. For those consumers who really don't want to consume GMOs in their food, certified organic is the only avenue to ensure the purity of GM-free food. There is a zero tolerance to GMOs by the certifiers of the organic industry.

Shortly after Roundup Ready canola was introduced, pollen drift from those fields contaminated almost all other canola crops. It is impossible to grow organic canola in Canada today because of inadvertent cross-pollination with GMO crops. The same fate is guaranteed for organic alfalfa if GMO alfalfa is released. This would be catastrophic for the organic industry. Alfalfa is a widely utilized crop throughout organic agriculture, and it is used on grain, vegetable, and meat farms as a soil builder and as a livestock feed. On our farm, a full one-third of our acres grow alfalfa in any given year.

I spoke with Trish Jordan, a Monsanto spokesperson, to ask her their view on how our two industries could coexist. Ms. Jordan stated that Monsanto's intention is to recommend a half-mile separation between the GMO and other alfalfa crops to prevent cross-pollination. She stated that Monsanto believes organic consumers must accept a small level of GMO contamination.

The bees that pollinate crops have at least a two-mile radius for gathering honey. As well, a Manitoba forage specialist informed me that the wind can carry the pollen for up to 10 miles. You have to keep in mind that this is 10 miles in any direction, so we're talking about 20 miles around. I also have a thesis by a University of Manitoba student who was looking at the role that feral alfalfa in the ditches and so on would play in the pollen transfer. It would be something you'd be unable to control. That would add to your inability to have any kind of set-back distance and be confident in it.

When you consider this, it is obvious that there is no way to contain GMO contamination. Considering that Monsanto is recommending a mere 5% of the separation distance required to prevent cross-pollination, it would appear that Monsanto would like nothing more than to effect widespread co-mingling of their new technology.

How can anyone stop the contamination level from building from 1% to 5% to 25% and beyond? If it were no longer possible to grow organic alfalfa, that would be devastating to the organic industry. And what is the next GM crop to be introduced? One by one, all of our cropping options will be eliminated.

Our farm has been a pioneer in organic agriculture, growing crops without chemical inputs for four generations. It seems odd to me that even though Black Family Farm has been able to build a business by giving consumers what they want and filling a market demand, the biotechnology industry is able to come along and destroy what we have built without any consequence to themselves.

The biotech industry is in it for the profit, yet it seems they are immune to paying the costs for the damage they create. If you own a dog, and even if that dog is licensed, if it bites the neighbour you are liable for the damages. Why is it any different for the biotech companies? Who will compensate the stakeholders who become collateral damage?

I was on the Manitoba Forage Council when this issue was being debated. Not a single commodity group had a desire for Roundup Ready alfalfa. Agronomically, alfalfa is a very competitive crop and requires no pesticides to control the weeds in the stand. At present, most conventional farmers use Roundup to kill their alfalfa fields in preparation for the next cropping option. Stakeholders were actually worried that Roundup Ready alfalfa would create a problem for farmers, because it would be resistant to the glyphosphate that they spray to clean the fields for competition prior to replanting. Instead, Roundup Ready alfalfa will become a persistent weed in farmers' fields, as it will be impervious to the glyphosphate. The seed industry also expressed grave concerns that they will no longer be able to guarantee the purity of their seed because of GMO contamination. If this happened, they would lose their organic markets and their lucrative export markets.

There is no demand for this technology at present. As far as I can see, the costs outweigh the benefits by far.

● (1130)

I'd like to draw your attention to this photograph. I apologize that the placard on the side of the truck is a bit illegible, but I'll tell you what says. It says, “It's a powerful insecticide, and it's harmless to humans”. It depicts the contemporary scientific wisdom of 1945. in later years, DDT was found to be so toxic that it was banned. The truly devastating effects of DDT were not suspected until the damage was done.

Tobacco provides a similar example. The tobacco industry denied any correlation between cigarettes and lung cancer for years. There are many other examples of approved substances later found to be harmful, including thalidomide.

My point is that we, as a society, need to understand that there are risks associated with genetically modified organisms. There has been no long-term independent research into GMOs. Any negative long-term effects cannot possibly be known yet. These effects may destroy organic farming systems and could profoundly affect the natural systems of our world.

The terrifying difference between the examples of DDT and tobacco, and that of genetically modified organisms, is the irreversible nature of GMO contamination. The infection will undoubtedly spread and be pervasive. If, in the years ahead, new evidence suggests a looming problem with GMOs, we cannot go back and rescind them. The cat will be out of the bag.

I believe that consumers would be more comfortable with GMO foods if the technology were subjected to long-term testing by independent researchers. There is a long list of GMO crops on the doorstep waiting for approval. If we proceed with no restrictions, in 10 to 20 years, what won't be genetically modified?

Can we afford to risk the balance of our natural world and the health of our own food supply? Our government is tasked with protecting food security for Canadians. It must employ independent research to ensure the safety of new agricultural technologies and to protect the public good. It is imperative that the federal government place a moratorium on Roundup Ready alfalfa test plots to protect us from the contamination threat they pose.

I'd like to thank you for this opportunity to express my concerns. I mentioned not having any recourse if Roundup Ready products deprive me of my ability to grow them and their counterparts. I would ask you to tell me what I should do when that happens.

Thank you.

● (1135)

The Chair: Thank you for staying well within the time.

We'll now move to questioning.

Mr. Pierre Lemieux (Glengarry—Prescott—Russell, CPC): Could I raise a point of order?

I want to follow up on a point that came up in the last meeting. We had Jodi Koberinski here from the Organic Council of Ontario. In her testimony, she said she felt the sector was not well supported with public funding and she was encouraging the investment of public money for research. One of the comments she made was that the sector was able to achieve this kind of growth without financial support, regulatory support, or research dollars of any significance from the public. As MPs, we had better look into this. Mr. Easter had asked the analyst to put together a report for committee.

What I would like to tell the committee is that I've also gone back to the department and asked the department to report to me on this. I have information here in both official languages that I'd like to give to the clerk, who can then give it to the analyst, but you can also distribute it to members, if not today, perhaps for the next meeting.

I'm not going to read everything, but just for the record I want to highlight a couple of key initiatives. There is an organic value-chain round table that has been in existence for five years and has received about $500,000 from the government. Another important initiative is —

An hon. member: You must be keeping time, Chair.

Mr. Pierre Lemieux: No, it's a point of order based on what was raised before.

The Chair: Do you have a point of order?

Mr. Francis Valeriote (Guelph, Lib.): I don't consider this a point of order. The information will be valuable, and I like the idea, Mr. Lemieux, of your providing it to the chair and to the analyst and to the clerk and to all of us. Perhaps it could be a subject of discussion later, but right now these witnesses have come from afar and we're losing valuable time.

The Chair: I'm asking him to be brief.

Mr. Francis Valeriote: He is never brief.

Mr. Pierre Lemieux: I will be only 10 more seconds.

The second key initiative is that there is an organic science cluster, which is focused on organics. They received $6.5 million in federal funding to help with research and development.

The Chair: Would you submit that?

Mr. Pierre Lemieux: I will submit it, but it's good for the public to hear this too, to be able to read it in the blues or read it in the minutes.

The Chair: Mr. Easter, seven minutes.

Hon. Wayne Easter: Thank you, Mr. Chair. I know this will come out of my time, but if we are going to get into those points of order, I could go back to any witness and be critical of a lack of government funding.

I know Mr. Lemieux is trying to put it on the record that there is government funding there, and that's fine. But if we get into that kind of game, we'll never get anything done.

Mr. Taylor, you mentioned that there is no independent testing. Mr. Black mentioned that there is no long-term testing by independent researchers.

I went back and looked at the rBGH hearings that we held in 1994, which is also an issue having to do with genetic modification. I want to submit that we're talking about biotechnology here, not exclusively GM. One thing we learned on our tour last week is that genetic modification, genetic engineering, is really a small part of the whole biotechnology industry. There are lot of good things happening with biotech in organic and regular breeding. And there is the GM aspect. One is not exclusively the other. That's what I'm saying.

In any event, what would you propose should be done there? I don't disagree with you that governments tend to look at the research of the companies. The data is peer-reviewed and analyzed by Health Canada and others. What would you suggest? Should there be a separate, independent research institute? Should it be within one country? Should it be global? What would you suggest?

● (1140)

Mr. Arnold Taylor: I referred to the Millstone study. I have a couple of copies, if anybody wants to see them later. I spent some time in the sixties in the pharmaceutical industry. They're much the same companies, but they have different guidelines. They talk about food intake or pharmaceutical intake. They talk about acceptable daily intakes. Under the system we have now, there are substantive equivalents. None of that work is done, so you have no way of knowing whether GMOs are acceptable. Just about every day, there is some study in the world that says there are liver problems or other kinds of problems. It's GM soy that comes from Brazil or from Russia or somewhere.

It's never been done, because we've accepted this pseudo-science as being science, and it's like spin. It's a myth that all this testing has been done. It has never been done, and we're eating these things. There is a giant experiment. You mentioned thalidomide. At the time that I was in that industry, the regulator in the U.S., the FDA, didn't allow thalidomide in the U.S. Those deformed babies stopped at their border. It was in England, Europe, and Canada. I have relatives that have arms this long because of thalidomide. I hope it never happens, but sooner or later there is going to be a smoking gun, some combination of events of GMOs and chemicals that's going to end up...and you're going to have a hell of a time cleaning it up. I don't know how.

It's your responsibility to figure out how this can be done. If the government has to fund it, fine. Right now, you're just accepting the industry's tests as far as they go. Even that is pretty proprietary. You can't even access them.

Mr. Larry Black: Thank you, Mr. Easter.

I think there is an organization called the Union of Concerned Scientists. There has been some research done. Separate research has been done. I would recommend that you contact some of these researchers who have done some preliminary work. You may want to explore it a little further, because the more information you have, the better.

Some of the risks that they see coming up include elevated toxins, elevated allergies. They've done tests on mice and rats that have had an exclusive GMO corn diet. After three generations, they've come up with premature death and sterility. These are some of the things they've found. We're taking about some serious consequences here, and if you haven't done any independent research, then you're subject to whatever comes down the road. Ten to twenty years from now is going to be too late.

Hon. Wayne Easter: Let's see if we can find that.

I have a question to A&L Canada Lab Incorporated.

Can you explain molecular technology to me a little further, and what it can do? I'm intrigued by the concept that if you have dead spots in your soil you may be able to improve it. Can you explain that a little further to me?

And Larry, on your point, I do want to make sure we have it on the record. Are you suggesting this committee ask for a moratorium on GM alfalfa as one of its recommendations?

● (1145)

Mr. Larry Black: That's correct. In fact, the crop has not been released for public use at this point in time.

Hon. Wayne Easter: That's fine. I just want to make sure I'm clear on that.

George or Greg.

Mr. George Lazarovits: To give you an example, in the Pacific Northwest, Jim Cook's group identified that a very serious disease of wheat, called Take-All, could be controlled by consecutive cropping of wheat, rather than a rotation cropping. After 50 years of research, this group discovered that the primary mechanism for this is the build-up of a specific group of bacteria called pseudomonas. These bacteria produce an antibiotic that actually controls the pathogen, even though it's present in the soil in high quantities.

What you see, as a result, is now these bacteria have been fully sequenced, the genes controlling the antibiotics are well understood, and you can actually detect presence of the genes in soil by using polymerase chain reaction assays. These are measuring DNA pieces of DNA in soil.

People who are measuring the DNA in soil in wheat fields are looking for rotations that keep populations at high levels, thereby suppressing the disease. All the technology for keeping this disease away from the production systems is now based on soil health, which is keeping these organisms at high levels.

You now have a rational basis for making a decision as to what crop you put in after your wheat to make sure the next time you plant wheat you don't get this disease. There are certain crops that knock those good guys down and there are other ones that raise them up. People are now using a DNA test to say this is good for us or this is not good for us.

Hon. Wayne Easter: Thank you, Larry.

The Chair: We'll now move to Mr. Bellavance, for seven minutes.

[*Translation*]

Mr. André Bellavance (Richmond—Arthabaska, BQ): Good morning. Thank you for your testimonies. I'll start with you, Mr. Black.

People have suggested using buffer zones, in other words protected areas between GMO crops and non-GMO crops, a measure that has often been advocated to avoid cross-pollination. In your testimony, you said that you spoke with the people at Monsanto, and they recommend a certain distance, 0.8 kilometres. But you told us that you realized that pollen from GMOs can spread over greater distances than that and go fairly far. You mentioned 16 kilometres, carried by wind or by bees.

Do you have examples that could enlighten the committee on this type of contamination. I'm not talking necessarily about Monsanto. It could be with any other producer of GMO seeds where someone has noticed that fields that are very far away have been contaminated.

[*English*]

Mr. Larry Black: Thank you.

I don't have specific examples about GMO alfalfa because that has not been released into the general public at this point. But I was told by a beekeeper that they do have a minimum of a two-mile radius, which is four miles in diameter. They travel that far when they're collecting pollen. I've heard other examples that are quite higher than that.

I was talking to a forage specialist, and I mentioned my concern about these test plots out there. One of them was about 40 miles from my place, so I was quite concerned. I was talking to the forage specialist about getting this moratorium I had mentioned in my presentation—this was after I talked to Ms. Jordan—and he brought it to my attention that the pollen can take alfalfa pollen ten miles. That was a forage specialist who works with the department of agriculture in Manitoba.

Those are not my numbers; I'm telling you their numbers. If you need further research to confirm, then by all means go ahead and do that. I'm just relaying the information I've found out.

● (1150)

Mr. Arnold Taylor: Can I make a comment on that?

What happens is, of course, Monsanto and these companies do test plots, which would be a field sometimes not much bigger than this room. It's a lot different from a 300-acre field of canola or alfalfa. And you have a principle of what they call pollen load. There is a huge amount of pollen released by things like corn and alfalfa, less so with soybeans. Each crop is different, but there are studies in Australia, which I can't quote but I could find, where canola, under the pollen load conditions of a large field, will drift in the wind up to 15 miles, let alone weeds and everything else.

But there is more than just pollen. Contamination is in the transportation system. It's in the wind. Canola is a tumbling weed. It's the mustard family. That's how it propagates its seed. It flies across the land as a big bush. And alfalfa has a different system. Wheat is self-pollinating, but corn also drifts a long way. So each crop is different, and a buffer zone is only part of the answer. The whole system is the contamination issue.

[*Translation*]

Mr. André Bellavance: The example that has received the most media attention is surely that of Mr. Schmeiser, in Saskatchewan, whose field was contaminated. The Supreme Court of Canada decided that he was the guilty party. Since I have already said that I am not a Supreme Court judge, I cannot go back to that. But it's still a fact, a reality. Cross-pollination exists, and contamination happens. So I believe that the regulations should be tighter, particularly when it comes to buffer zones. You're right to say that it's not the only solution.

For example, in Dakota, in the United States, dissemination has taken place along the roads, and people have figured out that, when seeds are transported by road—it was rapeseed in this case—they can end up in nature. So we have fields that will subsequently contaminate others. Perhaps it's time to tighten the regulations on this.

Ms. Blay-Palmer, you hit the nail on the head when you said that we need to take into account the various factors involved in GMOs. There is public health and the environment, of course, but you also added the protection of export markets. That was the reason why our colleague, Mr. Atamanenko, presented a bill to make up for that or to add another facet to this file.

I would like your opinion on this. What type of regulations should we put in place to fill in the cracks?

[*English*]

Dr. Alison Blay-Palmer: That's a great question. Thank you for asking it.

It's a question that's complex to answer because genetically modified organisms have the potential to have such a huge impact. It touches on all different aspects of life in Canada.

We're looking at the farming system as a whole. We're looking at biodiversity, ecological diversity, scales of farming, economic impact, intellectual property. Off the top of my head, to address this, it's a big, challenging question.

I think what you're doing here helps to get at that. You have to pick it apart in reference to sustainability. In order to answer this question properly, you have to make sure that you're thinking about the economic dimensions as well as the environmental implications of biodiversity and the effects we're having on things like the suite of seeds that farmers have access to.

What seems to be happening now is that genetically engineered traits are getting stacked on top of other seeds. Those seeds are becoming owned by corporations. In days gone by, our government did a lot of research into agriculture and created varieties that were publicly available to our farmers. That's not the case so much anymore.

When I did my Master's research, I looked at the availability of soybean seeds to farmers. In the 1970s, soybean seeds were 90% held by public research facilities in Canada. They had been developed by researchers here in Ottawa. By the 1990s, the case was completely reversed, with 90% of the seeds owned by private interests.

I think we need to go back to a situation where we have more publicly developed seeds. Those seeds should be developed with the needs of our farmers and our food system as the top priority. That's where we need to be headed with this conversation. We need to be privileging those things.

It's important to foster innovation. It's important to foster biotechnology and all of those different technologies, but we need to be doing it in a way that serves all Canadians' needs and not just the narrow needs of agricultural biotechnology companies. I think that right now it's going to be difficult to tease those things apart.

With respect to the comment that was made about the amount of funding in the last five years to organic agriculture and the innovation centre, that's a total of $7 million, if I recall correctly. But compared with the amount of money that the Canadian government has put into agricultural research and biotechnology, there is no comparison. That number pales in comparison. It's apples and oranges, the case you're making.

● (1155)

The Chair: You're well over. I thought you were finished.

Dr. Alison Blay-Palmer: I didn't know I had a time limit. You opened a Pandora's box. I'm sorry.

The Chair: Each member has approximately seven minutes.

Dr. Alison Blay-Palmer: Oh, I'm so sorry. I didn't know that.

The Chair: I'm very flexible.

Dr. Alison Blay-Palmer: I beg your pardon.

The Chair: It's okay. You'll probably get a chance to continue on that, Ms. Blay-Palmer.

Mr. Atamanenko.

Mr. Alex Atamanenko (British Columbia Southern Interior, NDP): Thanks to all of you for being here.

Professor Blay-Palmer, you mentioned that the state has a responsibility to intervene and ensure that we get a price premium for farmers. I'd like to get some comments from you and others on that.

Mr. Taylor, the research I've done basically says that in genetic engineering, when you transfer genes, it does not really increase the yield. Any increase in yield, the good things that we're having from canola and other crops, has been through the biotech industry and traditional breeding, not genetic engineering.

Where would the canola industry be today had GE canola not come into play? What would it have meant to the organic industry? It's a question that keeps coming into my mind.

Mr. Arnold Taylor: That's an important question. We had a lawsuit and there was a cross-examination of Dr. Peter Phillips, whom I think many of you know because he presented there. He's a scientist at the University of Saskatchewan. I happen to have a copy of the cross-examination, which is a very good read. I can get it to anybody electronically. It talks about how they segregated canola at the start, step by step. And this is Dr. Peter Phillips under oath, cross-examined by our lawyer. It was a friendly cross-examination. It wasn't hostile at all.

I just want to quote a couple of short sentences. Terry Zakreski was our lawyer. He's talking about a peer-reviewed article by Dr. Phillips in *Nature Biotechnology*, and this is about 2002-03. Dr. Phillips's article says, “The introduction of transgenic herbicide-tolerant canola in western Canada destroyed the growing, albeit limited, market for organic canola.”

And Dr. Phillips, in his answer, confirmed the reference.

Terry Zakreski continued:

> And you also state further on down that “this lost market amounts to be between $100,000 CDN and $200,000 CDN annually, but the calculation promptly underestimates the opportunity cost of a market that many thought had significant potential for growth over this period.

So that's Dr. Phillips in a peer-reviewed article stating that there was a huge opportunity that was missed. I asked Allison if we could quantify how much that would be in the ten years since 1995, how much was lost. What was lost was not lost to organic farmers only; it was lost to Canada, because most of those markets were in Europe, and Canadian canola was not allowed into Europe all those years. Organic canola probably would sell. Years ago I was selling flax for $38 a bushel when it was $10 on the conventional market. Canola would probably be double what it is in the conventional market. So probably right now we would be selling organic canola into Europe at $25 a bushel. All the transportation value-added, all the processing —that's all been lost to Canada. It wasn't picked up by the conventional market—they're locked out of Europe because of the GMO. How much, I don't know. It's millions.

● (1200)

Mr. Alex Atamanenko: Could the conventional industry have survived without GE?

Mr. Arnold Taylor: Absolutely.

Mr. Alex Atamanenko:I had the feeling when I started discussion on my bill that this was an issue of control. I was told point blank by a Croplife executive that they didn't even want this discussion going on here in Parliament. We're looking at the whole idea of contamination discussed by Monsanto. They think there can be a buffer zone, when studies and research have shown there cannot be.

Mr. Arnold Taylor: First of all, the technology is flawed in the sense that it's patented. It's a life form that's patented, and it's allowed in the U.S. Canada didn't allow it until the Schmeiser decision. The Supreme Court reversed their decision on the Harvard Mouse. They allowed the patent. It's patented. Patents should never have been issued on that. It's like patenting a motor you can't shut off. They can't control it. It runs amok. And that's what's happened.

And it's not about feeding the world. It's about selling Roundup. It's the value chain that they tap into on whatever company it is. That's what it's all about. And our government has acquiesced in that endeavour.

We grew canola for years successfully before we had Roundup. There are some benefits, for sure, like the direct seeding. But we use direct seeding systems too. My air seeder is as big as anybody's. So there are systems.

You talked about the research. The research has all been focused on this type of technology to the exclusion of all others, because there's value in being able to get a technology use agreement or sell a herbicide.

But to get back to your other question, the increase in yield is mostly owing to hybridization, which is a conventional technique. They're the same in corn and canola. It's easier to farm with a big sprayer. But it's not necessarily better food. It's probably not as good.

Mr. Alex Atamanenko: Larry, I have a question for you.

Is there any demand among the people you talk to for GM alfalfa?

Mr. Larry Black: Absolutely none. The forage council has representation from all the commodity groups, and there was absolutely no desire for it. In fact, everybody would rather it went away.

Mr. Alex Atamanenko: Professor Blay-Palmer, you said we have a responsibility to intervene. If there's no demand for this, what is our responsibility here?

Obviously we have to do something to ensure this doesn't get released into the environment, because it's already been approved. We've seen what's happened in the United States; they've approved unconditional release of alfalfa. I didn't know this before, but I've learned today that conventional farms like to have regular alfalfa because they can kill it as a weed. It seems there is something not right happening here.

If we still have time and you have any other comments on this, I'd appreciate it.

● (1205)

The Chair: You're out of time, but I'm going to allow the answer.

Mr. Arnold Taylor: Wayne, you mentioned a moratorium, and I'm not sure what that would entail with alfalfa. But a little example that came over the e-mail is about the U.S. approving a corn modified for ethanol. They've approved a corn that's modified for ethanol. It breaks down its own enzyme, or whatever. It's going to be put out there, probably on a confined release basis, and it could contaminate the conventional and sweet corn we're all eating. They have no way of stopping it because the regulatory system has no mechanism to stop that.

The processors are finding that even a few seeds of this stuff in the corn they're processing for taco shells, or whatever, causes problems in their process. I mean, we could all be sideswiped by giving these companies licence to do whatever they want.

I don't know what mechanism you have; it could be legislation or in the regulatory system, but it has to be different for each crop. I don't think we should assume we have to have that stuff. I think we can put a moratorium on all GMO crops until these things are in place.

The Chair: Mr. Richards, seven minutes.

Mr. Blake Richards (Wild Rose, CPC): Thank you, Mr. Chairman.

I appreciate all the witnesses being here today.

We've heard a lot of debate about GMO crops or non-GMO crops. We also have two individuals here from A&L Canada Laboratories who haven't had much of a chance to participate today. I'd like to give them more of a chance during my time.

There is obviously a lot more to biotechnology than GMO crops. I know you certainly have done some research in other areas, and I'm interested in hearing more about it.

A lot of your research is ongoing, but I'm specifically interested to hear about some of the applications of your research. You could take this opportunity to tell us a little about some of the benefits, with some examples of the application of your research and what it's been able to do for farmers to improve their situation.

Mr. George Lazarovits: Thank you for that.

I've had an opportunity to pretty well travel the whole world and look at issues related to agriculture, and one of the greatest threats we have coming in the next decade is global climate change. It's certainly going to be a major factor, as it is already happening in many parts of the world.

The second will be the increasing cost of production to growers, and this is in the cost of fertilizers, particularly phosphate and potash, and of course as oil prices go up, it will also be the nitrogen components.

So one of the areas we would really like to approach is how to make plants much more efficient in the use of these materials in soil and also how to create conditions so that plants are much more resistant to the stresses of environmental change. Believe it or not, a lot of this comes from the root systems.

Agriculture has undergone what we call the green revolution. That has occurred based on the selection of crop plants based on very high fertility inputs, because they were dirt cheap; they were really inexpensive. But as the prices increased, the cost to growers continued to go up.

Over the last 50 years, roots have never been considered as something breeders ever looked at. They were not looked at because they're underground and it was too much work to look at them. So we have created a perfect top part of the plant, but we lost everything below the ground, and our efforts will be to look at components in the root systems that will allow for much improved plant growth and at the same time reduce the input costs in the form of fertility. We're looking at biofertilizers. We're looking at those interactions between plants that make plants grow better. Just like in legumes, the only microbes we use extensively are the nodulating bacteria, which probably produce more fertilizer in one year than all the artificial fertilizers we have ever applied. So that's going to be the focus of our company.

● (1210)

Mr. Blake Richards: Okay. So your research is more ongoing at this point. You've just started—

Mr. George Lazarovits: We're a year-old company, so we're just staffing and equipping, but we are ready to do diagnostic tests for growers as far as diseases and other factors that go along with that.

But as far as the research, we have about five programs. One is with Australia, looking at root-soil health as a factor in the production of potatoes; we have some work with the University of Guelph and the tomato growers of Ontario, and we're looking at some ornamental production with trees. Ornamental trees are a $1 billion industry in Ontario, believe it or not, and the flowers are another billion. These people have serious disease issues in greenhouses.

So those are the aspects we're looking at.

Mr. Blake Richards: Okay.

Are you looking at other specific crops or plants right now, and where are you in terms of when you would be testing with farmers and pilot projects?

Mr. George Lazarovits: All our tests are on farmers' fields. Our program will be directly linked to questions growers bring to our company, and everything will be done in those situations where they're having crop losses. The idea will be to get an idea of the distribution of pathogens across the field and how they relate to A&L's business of looking at chemical fertility. We want to have a very good map of what is going on as far as these high yielding sites in the field versus those that are low yielding.

To some extent, the work is very much related to organic production. We call it ecological agriculture because we are looking at the scientific basis of what makes a plant highly productive versus one that's low in production. But our focus, believe it or not, will be on a healthy plant, not a sick plant.

Again, this is something that's very hard to get funding for. Nobody wants to study a healthy human and nobody wants to study a healthy plant.

Mr. Blake Richards: I appreciate that.

I know your research does focus on other areas, but obviously there has been a lot of talk about GMO crops, and certainly the opinion has been quite widely expressed here today that the GMOs and non-GMO crops cannot coexist. That seems to be the opinion of the other panellists here today.

I don't know if you have specific expertise in the area or not, or if, because of your research background, you could offer us an opinion, but I would be interested in hearing your thoughts or your opinion on whether GMO crops and non-GMO crops can coexist. If so, how? And if not, why not?

Mr. George Lazarovits: The GMO crop, I think the panel here has said, has to be considered on a crop-by-crop basis. The place that I have seen the greatest impact on the benefits of GMO crops has been on GMO cotton. I have gone to places in Russia and the former Soviet Union where they used enormous amounts of pesticides. GMO cotton has eliminated a large proportion of pesticide use, and you've seen huge benefits to human health and to the growers. But it's not a crop that we eat; it's not a crop like a wheat species.

Mr. Greg Patterson: One of the projects that George talked about was an in-house project, where we're working with organic and conventional growers to look at soil health from the point of view of cultural practices, including the use of pesticides. We don't have anything conclusive at this time. But some of the grower groups say that these products are causing increased disease pressure, loss of yield, loss of productivity, and loss of markets.

When we do these soil health initiatives, we look at the biology of the soil—the good bugs, the bad bugs. We look at what we are doing in conventional agriculture or organic agriculture that's causing these issues. We try to solve the puzzle. We consider how to make a recommendation to a grower on what he should or should not do to maintain healthy soil. That's kind of an in-house, all-encompassing project that we have on the go.

● (1215)

Mr. Blake Richards: I appreciate your answers.

The Chair: Mr. Valeriote.

Mr. Bellavance, could I ask you to take the chair?

Mr. Francis Valeriote: I want to thank all of you for taking time out of your day to appear before us. It's much appreciated.

We are aware that CETA negotiations are going on right now. I'm hearing—it may not be completely accurate—that there may be an adoption of a low-level-presence approach to crops where a certain degree of contamination might be permitted. Could you explain what that would do to an examination of the issue through a market-harm approach? What would it do to the industry if the largest markets all of a sudden agreed to accept a low-level presence? We still have people in Canada saying they will only accept zero as the level.

Alison?

Dr. Alison Blay-Palmer: Can you clarify what you mean when you say “Canada accepts zero”.

Mr. Francis Valeriote: What if Canada applies a harm-to-market analysis such as was suggested, say, in C-474, and all of a sudden we understand the markets out there accept a low-level presence, while there are still farmers who want a zero presence?

Dr. Alison Blay-Palmer: I think that Bill C-474 took that into account, because it was a harm based on market opportunity. It didn't specify what the market would dictate. It just referred to harm based on a market assessment.

Mr. Francis Valeriote: Let me put it this way. Would the organics people accept that? Would the organic growers accept a sudden low-level presence being permitted?

Dr. Alison Blay-Palmer: I think Arnold is better....

Mr. Arnold Taylor: First of all, you have to understand that GMO technology is a prohibited method in organic worldwide. Understand this. This is a process-based standard. If I as a farmer grow something and, unbeknownst to me, it drifts over to someplace else and there is a low-level presence, according to the NOP, I would not lose organic status on that crop. But there is an issue there. Once it's there, then you know it's there. Then you're dealing with certification and cleanup. So there's a cost involved.

A low-level presence is different from a threshold. Europe has a threshold of 0.9 in their labelling law. That's a threshold, a tolerance level. That's a slippery slope. Canada couldn't meet it now in canola. They are so far contaminated, they would never meet it.

The organic sector...we have that already. Probably worldwide we would have that as a primitive method, because of the testing. We don't believe the technology is mature enough to be used in the food production. That's our position.

Dr. Alison Blay-Palmer: As a sidebar here, just because CETA agrees to something doesn't mean European or Japanese consumers are going to accept it; the EU and Japan can still label their food however they want to. Consumers can still make that differentiation, whether CETA says they want to adhere to a certain standard or not. There are very different issues there, when you're considering market.

Mr. Francis Valeriote: Okay.

I have another question, on the identity-preserved isolation distances. Mr. Richards suggested there's no level of buffer zone that assures non-contamination. Yet Jim Gowland, from the Canadian Soybean Council, was here a couple of days ago, and he's growing non-GM soybean and GM soybean.

If we were to work towards trying to create GMO-free zones and buffer distances, and that kind of thing, so we could create some type of coexistence, I'm wondering if it's possible to identify crops that buffer distances will work for and crops where buffer distances absolutely will not work.

● (1220)

Mr. Arnold Taylor: It's dicey, but for sure there are differences in different crops. I know there's a good market for non-GMO soybeans —not just organic, but GMO-free soybeans—and that's coexistence, if you want to call it that. I'm not sure how they manage it because I'm not real familiar with soybeans.

But for corn and canola, it's impossible. That's especially the case with canola because it's so prolific in cross-pollination. Plus, it leaks on the truck; it just runs like water. You put it in a truck and it will leak down the highways from a tiny little crack. It's absolutely impossible. It's growing in the sidewalks; it's growing in the eavestroughs, and in livestock and birds. And who's liablel for it? Who's going to pay for the cost of cleaning it up?

[*Translation*]

The Vice-Chair (Mr. André Bellavance): I'm sorry, time's up.

Mr. Lemieux, the floor is yours.

[*English*]

Mr. Pierre Lemieux: Thank you, André.

I don't want to get into a big debate about funding. My only point about raising funding was that based on our last presentation, the committee was left with the impression that there was no significant public funding for organic farming. My point was that there is funding, and $6.5 million is significant.

If you're going to compare it to all biotechnology, I think you raise an interesting point. The committee is here to talk about biotechnology and look into biotechnology, which is far bigger than GM. Biotechnology touches so many different sectors and commodities, in many different ways.

There are many research clusters that are funded in a comparable way to the organics. If you're going to lump them altogether and say, this, this, and this, and if I add it all up—my point was only that there is funding.

Anyway, I don't want to get into a big debate about it.

I do, though, want to understand the organic position better. As I said, biotechnology is a far wider discussion than just GM.

We've had a number of presenters here speaking from the organic point of view. I'm trying to understand, for example, if the organic sector is in favour of having a good regulatory and registration regime in place for plants and commodities—livestock—that has been influenced by biotechnology, to basically protect the interests of farmers and consumers but also allow for research and development to help farmers, or is it just a moratorium?

What I heard Arnold say was that it is a moratorium, and I'm not sure if I'm detecting that in some of the other presenters. Maybe you could clarify that for me, from the biotechnology point of view.

Mr. Arnold Taylor: Okay. I was going to jump in before this.

When Wayne Easter was out in Davidson, in about 2002, on the Prime Minister's task force—a different Prime Minister—he asked me if organic agriculture could survive along with industrial agriculture. I said yes, but not with the proliferation of GMO crops. That was my answer.

That was ten years ago. We're ten years later, and he's a little greyer and I'm a lot greyer, but we've still got the same problem.

Mr. Pierre Lemieux: But the organic sector is growing.

Mr. Arnold Taylor: But we benefit from technology.

Mr. Pierre Lemieux: Sure.

Mr. Arnold Taylor: We use the newer varieties of crops, but we can't use genetically modified technology because it's prohibited in our standards.

We can't change it; our customers, our consumers, demand that. Biotech companies say you eat what we produce or go hungry. We would never do that to our customers.

Mr. Pierre Lemieux: I actually agree with you. Biotechnology can help the organic sector. It's just that what happens is—

Mr. Arnold Taylor: Except that I'm not talking about genetic engineering.

Mr. Pierre Lemieux: I understand that.

Mr. Arnold Taylor: I'm talking about biotechnology—

Mr. Pierre Lemieux: I understand that, too.

What I'm detecting, though, is that the subject matter becomes confused, in that the term “biotechnology” is thrown out there and the organic sector is somehow against biotechnology. I want to clarify this. I don't think you are against biotechnology.

Mr. Arnold Taylor: No, we're not. We're not against it. We could benefit from it.

● (1225)

Mr. Pierre Lemieux: Good. Perfect.

Mr. Arnold Taylor: But we also have our guidelines. And our government has to respect that the consumers decide what they're going to buy.

Mr. Pierre Lemieux: Right. And I think that's important.

This leads to my next question. Let's look at that subset of GM products. I detect—and you can clarify it for me—that the organic sector wants a moratorium. You want, basically, a moratorium on GM products—not good, strict regulations, or a tough but fair regulatory system. And yet when we talked to the soybean growers, for example, where they actually have GM and non-GM, one of the questions I put to them was whether a tension existed between their GM farmers and their non-GM farmers where the non-GM farmers felt threatened by the presence of the GM farmers' cross-contamination issues, all the things we're talking about today. The answer was no. There's a mutual respect there, in that “I'm a non-GM soy grower. I'm going to grow my crop and I'm going to take measures to ensure it's non-GM. You're a GM grower. You take the measures you need to grow your crop.” But there's not this “I am absolutely against GM soy growers.”

But that's not what I'm detecting from the organic sector, in general. I'm detecting.... Well, you had said that you wanted to see a moratorium.

Mr. Arnold Taylor: I said—and I hope it was recorded—a moratorium until some of these issues are settled, which is how you prevent the contamination.

When we sued Monsanto and Bayer, we didn't sue our fellow farmers, who have a liability issue as well. We sued the patent holders, the owners of the technology, which I think was fair. In Australia there's a lawsuit going on right now. Monsanto is defending a farmer, who is holding its technology use agreement, from another farmer for contamination. You can Google Steve Marsh lawsuit, or something like that. There are pictures and everything. There's a case where a farmer is suing his neighbour.

I get along very well with my neighbours—

Mr. Pierre Lemieux: But it didn't seem to be rampant. I will not argue that there were no cases of cross-contamination.

Mr. Arnold Taylor: Organic farmers on the Prairies have a lot of respect. There are 1.2 million acres of organic land in the province of Saskatchewan alone. There are 1,200 organic farmers. From my farm to town, which is seven miles, there are about three organic farmers, interspersed, and we respect each other. But they don't understand. They assume they have no responsibility to keep that GMO product on their land.

It works for spray, because you can stay back or you can wait for the wind to blow in the other direction. But it doesn't work for GM. There's got to be some way of not putting out these crops that are going to proliferate and destroy somebody else's market. There's no reason we have to have it. And the consumers don't want it. If you label GM canola, if you put GM labelling in Canada, you won't be selling much GM crop. The consumers don't want it.

Mr. Pierre Lemieux: But what I'm detecting is that.... As I was saying, the organic sector would prefer to see a moratorium on GM-type issues, which would actually harm.... You don't seem to be saying to the government, be vigilant, be attentive, do your research, make sure you have good regulations. I haven't heard that. What I've heard is, put a moratorium on it, this is a threat to our sector and we want it ended. It's not a middle-ground kind of solution.

Mr. Arnold Taylor: I know you say it's not realistic, but it is something we need. We need to stop it, revisit it, and then start looking at where we're going to go.

Mr. Pierre Lemieux: But then you're taking choice away from all the canola farmers who want to grow canola. You're taking that from them because you're worried.

Mr. Arnold Taylor: But you know what? We were here first.

The Chair: He's trying to determine a point, Mr. Taylor.

Mr. Arnold Taylor: We'll have coffee after.

The Chair: Okay, you can continue that, then.

Thank you.

Ms. Bonsant, five minutes.

[*Translation*]

Ms. France Bonsant (Compton—Stanstead, BQ): Thank you, Mr. Chair.

Gentlemen, I am very happy to hear what you have to say. It's always a little emotional to hear discussions about GMO and non-GMO products. What bothers me the most in all of this is that Mr. Lemieux said that you criticize people who want to grow GMO products because it's their choice, but he never takes the side of those people who want to have non-GMO products. I'm not saying this because I'm against GMOs, but in life, you need to have the choice. Also, I support mandatory labelling. I want to have a choice with my food. What you mentioned, Mr. Taylor, made me think a little. There are advertisements that say, "You are what you eat", and it's true. If I don't want to buy tomatoes that contain scorpion venom to prevent freezing, I would like to know that.

Ms. Blay-Palmer, you said earlier that there is a large market for organic products developing outside Canada, like in Europe, for example. Can you tell me what the organic products industry represents to Canada, in billions of dollars? It's not small potatoes. It's big business.

● (1230)

[*English*]

Dr. Alison Blay-Palmer: Arnold might be able to....

[*Translation*]

Ms. France Bonsant: Mr. Taylor can answer, if he wishes, or Mr. Black.

[*English*]

Mr. Arnold Taylor: I don't think I can....

Dr. Alison Blay-Palmer: It's tens of billions of dollars.

Mr. Arnold Taylor: Yeah, but I don't—

Dr. Alison Blay-Palmer: It's substantial, and it's the fastest-growing market in the world in the agricultural sector.

Mr. Arnold Taylor: I'm going to throw out a figure: $20 billion. But I don't....

Dr. Alison Blay-Palmer: It's very substantial. One of the reasons that companies like Wal-Mart, for example, are interested in getting into the organic market is because it is one of the fastest-growing markets in developed countries. So that's the appeal.

[*Translation*]

Ms. France Bonsant: This isn't just the case in emerging countries. I see the young generation—my daughters, for example—wanting organic products free from pesticides, without junk. Almost everywhere, I see the desire for food sovereignty and to buy locally. I don't know about the other provinces, but it's especially the case in Quebec. It's very important for me.

Mr. Black, you have an organic farm, which has been there for a number of generations. With contamination, I'm sure that you would lose income. Are you afraid of losing your farm one day if everything gets contaminated?

[*English*]

Mr. Larry Black: Thank you.

I'm very concerned. I've been able to somewhat separate myself until such time as—the alfalfa is the real looming.... I didn't grow canola before, so that really didn't affect me. But alfalfa, I grow a lot of that. It both feeds my livestock—I have a dairy farm—and I also grow crops. It's integral to both of them, and all of a sudden now it's on my doorstep. As I said, there's a test plot 40 miles away, and if that wind blows it 10 miles every year closer to me, I don't have a lot of time left. If it becomes widely spread—unconditional release—then I might have less time than that.

So it is on my doorstep, and it's going to determine whether I can continue or not. As far as I understand at this point in time, I'll be subject to no compensation. So that's why I did raise that question. I'd sure like to know what I'm supposed to do in the event that I can no longer do what I'm doing.

[*Translation*]

Ms. France Bonsant: And you, Mr. Taylor, are you concerned about the contamination of your soil and losing your farm, as well?

[*English*]

Mr. Arnold Taylor: I'm concerned that organic agriculture is severely threatened. We lost canola as a crop, and we ate that, basically. We've lost it. It's a big market, and if we had kept canola, and if they had kept that segregation system in place and whatever they could have done with buffer zones, or everything else that could have been done, it would have been highly profitable for my farm to continue growing canola. I had to quit growing canola and switch to mustard and flax—much smaller markets. No easier to grow, but much smaller markets and probably a lower price. So we lost that crop.

The biggest threat right now is alfalfa, because it's a soil builder. You mentioned about modulation and how alfalfa fixes nitrogen in the soil. For free, you just seed it. I had alfalfa and clover 10 feet high last year. We plowed it all in. That's benefits for years and years. It's not for free, but I don't have to go buy it in a bag. It's there on my land, and that's what I'm going to lose. If I lose alfalfa—if Larry loses alfalfa, he's going to have to try to find some other way to fix nitrogen and to feed his cows.

The Chair: If you've got a closing comment...but you're out of time.

[*Translation*]

Ms. France Bonsant: I have a brief question to ask.

[*English*]

The Chair: I was getting some comments from the cheap seats here.

[*Translation*]

Ms. France Bonsant: Do you think that organic farms are a part of sustainable development?

● (1235)

[*English*]

Mr. Arnold Taylor: I think what I heard is, is it sustainable?

[*Translation*]

Ms. France Bonsant: Did you understand my question? Are organic farms a part of sustainable development?

[*English*]

The Chair: Thank you. I asked if you had a closing comment, not a question.

Mr. Shipley, five minutes.

Mr. Bev Shipley (Lambton—Kent—Middlesex, CPC): Thank you, Mr. Chair, and thank you to the witnesses for being here.

I want to go first of all to A&L Biologicals, a neighbour of mine from southwestern Ontario. I live just outside London, so Mr. Patterson and Dr. Lazarovits, I appreciate your taking the time to be here. It's interesting, and I'm so encouraged because you talk about your testing that is done in fields, not in laboratories. You're concerned about soil use, root structure. There's been all kinds of talk over the years about root structure. But what you're really talking about is variation in the soils as we cross a hundred acre farm. My farm is in dairy and cash crops.

It's interesting, though, that you talk about yield drops. In our area we continue to see yield increases. I don't know if it's because of the breeding. I'll disagree with those who say GM has lowered the yields. In my area, where we grow many soybeans, wheat, and corn, we've seen incredible yield increases. Not all of those are GM. The unfortunate part about this discussion is that everything is going back to GM. We've got so much. It's one small part of genomics. It's one small part of what biotechnology is about.

I'm interested that you're doing the soil health initiative using farms, universities...or is it strictly other...? Are they all independent labs, or are these publicly funded labs also?

Mr. Greg Patterson: The A&L Biologicals' approach was just to look at that other piece of the puzzle we haven't worked with. A&L Canada, which is owned by farmers, was started and research initiatives were put in place to address all production issues of all crops. So we deal with farmer groups. We cooperate with universities and industry to use all the technologies we have. We're involved in precision agriculture and soil testing and the like.

The A&L Biologicals portion was to look at the one piece of the puzzle we really know nothing about, and that's the ecology of the soil. We are doing a better job growing crops. Yields are increasing because of the technologies we keep using as we advance in agriculture. But we're also damaging a lot of things. Our approach is to continue using the technology, continue to produce bigger and better crops, more profitable cropping systems, but to start to address some of those things we're challenged with all the time in some of the negatives we create for ourselves as we go forward.

Mr. Bev Shipley: Is it regardless of what you grow or whether it's GM, non-GM, organic? Is it in the soils regardless of what type of structure you're using to plant? Is it just soils that have had GM crops growing in them? Is that the problem?

Mr. Greg Patterson: No, it's all soils, all cropping systems. We are stewards of the land, as farmers, but as we go into the unknown, there are products and pesticides we use. We need to understand a little better how to use them, not only more effectively but....

Mr. Bev Shipley: Let's ask Mr. Taylor or Mr. Black. When we're talking cross-pollination—cross-contamination sounds like something hazardous—are you just concerned with GM crops? So when you have cross-pollination into your organic fields between IP soybeans that are not GM, and they've had a pesticide used on them, they've been grown with a commercial fertilizer, that isn't a concern.

Mr. Arnold Taylor: No.

Mr. Bev Shipley: But I thought you had zero tolerance.

Mr. Arnold Taylor: That's for genetically engineered products. But mutagenesis is different. With that type of plant breeding, it's still soybean genes inserted into soybean genes and propagated.

Mr. Bev Shipley: I understand that.

Mr. Arnold Taylor: So that type of thing would be allowed, and if it cross-pollinates into my soybeans, that wouldn't be a problem.

● (1240)

Mr. Bev Shipley: Is that right?

Mr. Arnold Taylor: But with the genetically engineered gene, cross-pollination is a problem.

Mr. Bev Shipley: My daughter is an organic consumer, and her understanding would be that there is only “organic” in the product she's buying. I don't necessarily buy that.

Mr. Arnold Taylor: Organic is a production system, a process.

Mr. Bev Shipley: The organic field may be cross-pollinated with non-organic crops, yet it would be labeled “organic”, because these same pollens cross with IP soybeans. I don't know how you differentiate that.

Mr. Arnold Taylor: You wouldn't even try. There's no need to, because it's soybeans.

Mr. Bev Shipley: Except the labelling for organics is “organic”.

Mr. Arnold Taylor: But it's not—

Mr. Larry Black: We can have a buffer zone that protects us from pesticide drift from one to the other, but as far as what Arnold was talking about, you're talking apples and oranges.

Mr. Bev Shipley: What's the buffer zone?

Mr. Larry Black: It's 25 feet.

Mr. Bev Shipley: Who keeps that separation?

Mr. Larry Black: The certifying agency determines it.

Mr. Arnold Taylor: The organic farmer keeps it. We pay the costs. We should be the conventional farmer, because we were here first. Conventional agriculture, the chemical farmer, shall we say, has no responsibility other than to worry about the wind, because he could contaminate me, or spray me out, and I could sue him for damages.

The Chair: Thank you.

You implied, maybe not intentionally, that GE alfalfa is here in Canada.

Mr. Arnold Taylor: It's an approved event.

The Chair: No, it has not been approved for Canada. It's approved in the U.S. but not here. I have to tell you, I don't have a bias on this. I do not see the benefit of having Roundup Ready alfalfa. That's a personal opinion. I don't have a bias towards it, but I don't like misinformation, intentional or otherwise, because it creates fear mongering. I just want to point that out.

Mr. Arnold Taylor: I beg to differ with you a little bit. My understanding is that it's an approved event in Canada.

The Chair: No.

Mr. Taylor: But they don't have their variety trials done, so it hasn't been released in Canada. But if somebody brings Roundup Ready alfalfa from the U.S. and it catches in my field, there's no problem.

The Chair: If it blows across the border....

Mr. Arnold Taylor: Yes, but my understanding is—

The Chair: I just wanted to be clear. They can apply, but as of today, it's not approved for sale or use in Canada.

Mr. Eyking.

Hon. Mark Eyking (Sydney—Victoria, Lib.): Thank you, Mr. Chair.

It's quite the conversation we're having here today. I think back when I was a young fellow driving a tractor with my dad. When we were putting fertilizer on, we used to love to spread the chemical fertilizer. It was easier. You spread 10 acres in an afternoon. Neighbours didn't complain. It was subsidized. In Nova Scotia, they subsidize fertilizer.

We had a mixed operation, so we left the manure in the yard, just buried it, mixed it up. But we've gone past that, where our yields were dropping. I took a course in sustainable agriculture from the University of California, Davis. Once we started storing the manure, it was an asset instead of a hindrance. We had to educate the public a bit about spreading manure. Instead of putting more fertilizer on areas where crops weren't growing, we put more manure on.

We're trying to talk about biotech, but GMOs keep coming up. My colleague used the term “sustainable agriculture”. Where are we going to go in the next 25 years, with 10 billion people on the planet? How are we going to coexist with...?

It seems there's a clash of ideals here between the GMO stuff and the organic farmers. What we as a committee would love to see is coexistence, but it doesn't seem to be happening. I was interested in your articles about the soil and how we can improve the it. You also mentioned the green revolution and how it brought all these Asian countries from feeding themselves to producing, and it brought their GDP up. But they're hooked on fertilizer and chemicals. They're in a precarious situation.

How can we move forward on feeding the planet, mixing technologies, and doing what's right for the good of humankind, so that our farmers can take advantage of it? I'm throwing that out; it's a bit of a challenge. How do we go there?

● (1245)

Mr. Arnold Taylor: Something dear to my heart.

They have in Regina, Saskatchewan, the Farm Progress Show, where they show off their 80-foot air seeders and all the new biotech equipment—all the great farming equipment—and they talk about this progress. There are farmers on the Prairies who grow 10,000, 20,000, 30,000 acres on one farm. When I grew up, in the 1950s, we raised eight children on a section of land—one section, four quarters—with about a 12-foot cultivator. This was in the 1950s, and we were using sprays and stuff like that. The rinks were full, the schools were full, and the communities were full. Now the communities are emptying. So is farm progress, progress? Is it progress for whom?

These same farmers, when they have a bad year, are up and down their highways with their hand out for the federal government to pay some money to bail them out. So it isn't working. We somehow have to find a way...we're talking about getting young farmers on the land. It's how we do agriculture. You have to zone farmland and keep it as farmland so that a young farmer doesn't have to compete with the industry to buy food. Once that land is under concrete—

Hon. Mark Eyking: I want you to focus on my questions, with all due respect. I want the other gentleman to answer some of it. I want to focus on my question, because my time will be limited.

Mr. George Lazarovits: Yesterday, I gave a lecture at the University of Guelph about my vision of the new green revolution. It's stolen from the Brazilian sugar cane industry. In 1971, a lady named Johanna Döbereiner was tasked with developing Brazil's independence from importing oil. She did something so revolutionary that we in Canada would fall down just hearing it. She selected Brazilian sugar canes, which were brought into Brazil in the 1500s, and selected the varieties for production, based on virtually no fertilizer being applied to the soil. She went to the poorest farmers, took their varieties and tested them.

Today, Brazil uses about 50 kilos of fertilizer per hectare, versus the U.S., which uses 350 kilos per hectare. This is because they selected all their varieties based on high-energy inputs. This difference, of course, translated over millions of acres...you can calculate the value; it's enormous. Because of that, Brazil produces bioenergy at 10 units of energy coming out for every unit going in. In our case, we're lucky to reach one, two, or three ratios. In some cases, some people say that we put in 10 units of energy to get one out. This is what we need to change.

Globally speaking, one of the ways that people have improved crop yields in horticulture crops.... There are now 1.5 billion grafted tomatoes, eggplants, and peppers, just to take advantage of these better root structures in these systems so you don't have to apply these really toxic fumigants to kill organisms in soil. Who would have thought that...? You know, we always had grafted trees and grafted roses and things like that, perennial plants, but never annual plants. The root systems are going to become a major component of the future productivity in agriculture and the reduction of inputs.

The Chair: If I could just continue on that, George, you made the comment comparing Brazilian inputs on the sugar cane, and I found that interesting. I forget the exact number, but it was quite significant.

How do the yields in the U.S., with their much higher inputs, compare to Brazil? Could you comment on that?

● (1250)

Mr. George Lazarovits: As far as I know, the yields are more than sufficient to support the growers. If the yields are less, and the input costs are insignificant, the farmers still make more money. They have enough acreage in Brazil, I guarantee you that, to find as much as they need.

Let me just add one thing. The reason they can get away with 50 kilos of fertilizer.... It has been discovered that five bacteria live inside the sugar cane, and these bacteria are now known to be involved in producing nitrogen, releasing phosphorous, and all those beneficial impacts that this plant needs to survive in nature.

My son one day asked me, when we were walking in a meadow, "Hey dad, who fertilizes these plants?"—they were about six feet tall—and I said, "Nobody." He says, "Well how come they grow so big?" So to some extent we have to go back to ecology and see what supports plants out there, because we've gone away from it in a long way.

The Chair: Thank you.

Mr. Storseth, you have the last five minutes.

Mr. Brian Storseth (Westlock—St. Paul, CPC): Thank you very much, Mr. Chair.

My first question is for A&L Canada Laboratories. I want to thank you for coming today.

You talked about higher yields and less input costs, potentially. One of the big problems we have on the Prairies is water, and it's a growing problem. Do you think you'll be able to find—or is it possible that one of the benefits is going to be—a more robust seed or plant so that it doesn't require as much water?

Mr. George Lazarovits: The people who developed the grafted plants were the Israelis. They developed them because they don't have water. They graft watermelons, cantaloupes, cucumbers, and all of these plants.

Grafted plants cost about four times more than a non-grafted plant, so it's very substantial as far as that goes. We'll get that down, but in any event, one of the things they discovered is that these roots can go down to a metre deep, whereas the conventional roots only go down six inches. So you've got a lot more area that you can tap into, and they do find that it's much more resistant to drought.

Mr. Brian Storseth: Excellent. That would be very beneficial to our farmers.

Mr. Taylor, I want to thank you for coming, and I want to thank everybody for coming.

My family farms as well. I've got to tell you that I just got off the phone with one of my producers, and they very much disagree with your opinion on the increased yield with canola. They feel that the GM products they use have substantially increased the yield they have, which increases the amount of revenue they have on their farm.

I guess that's not my biggest concern. I have to say that I really disagree with your comments about farmers walking down the road with their hands out. I've got to tell you that my farmers don't do that. My farmers go and take a second job, then a third job, and then their wife goes out and works. These aren't guys who can control the fact that we've had droughts; these aren't guys who can control the fact that we've had floods. At the end of the day, I don't think organic is going to be the answer to mother nature's creating these problems, because my organic farmers, when we are in a five-year drought, have the same problems, if not more problems, than my guys who are using GM.

You talk often here about it coming down to the consumers and consumers need to have the knowledge. I agree with that. I also agree, though, that producers need to have choice.

I'm going to ask you a couple of questions about consumer knowledge.

I've heard that an organic farmer doesn't necessarily have to use organic seed. Is it true that he just has to have tried, so many times, to obtain organic seed?

Mr. Arnold Taylor: Yes. Under most standards, it's got to be readily available within a reasonable distance, and you've got to make an honest effort to try to buy organic seed, because part of our principle is to use our own seed, to use as many inputs from the farm, such as manure, seed—

Mr. Brian Storseth: But the answer is that you don't necessarily have to?

Mr. Arnold Taylor: The answer is yes, you're right.

Mr. Brian Storseth: Regarding pest control products, is it true that organic farmers are allowed to utilize things like boric acid, garden-grade diatomaceous, and some of these things that—

Mr. Arnold Taylor: I'm not really up on some of those substances, but some use certain products that are accepted in the organic permitted substances. But I'm not an expert on permitted substances.

Mr. Brian Storseth: That's fine, but I think this is something people need to know, because some of these substances are actually quite toxic, and they're toxic in the earth.

● (1255)

Mr. Arnold Taylor: You'd have to take that up with whoever, but the organic substances are allowed. They're on the OMRI list, or whatever, and they've been tested.

Mr. Brian Storseth: But we're talking about consumer knowledge, and consumers should have the knowledge for these things.

Is it true that organic farmers are allowed to spray crops with bacterial spores? Are you up on that?

Mr. Arnold Taylor: I'm not up on that either, but with some they would. You can use certain things, but some things you can't.

Mr. Brian Storseth: Some of these bacterial spores have been known to cause damage to human cells.

Mr. Arnold Taylor: You'd have to be more specific, and then I'd have to research it and get an answer for you.

Mr. Brian Storseth: Okay. Well, maybe we can—

Mr. Arnold Taylor: You're generalizing all spores.

Mr. Brian Storseth: Maybe we can get a little more specific when we don't have only five minutes.

Mr. Arnold Taylor: Yes.

Mr. Brian Storseth: The other thing I actually would like to ask is this. Is it true that in the last several years there have been at least two E. coli outbreaks in the United States of America that have been traced back to organic strawberries or organic lettuce?

Mr. Arnold Taylor: I can't make a comment, other than to say there was one in California, and there was a peanut factory in North Carolina where there was a salmonella outbreak, and it was a certified organic operation. But they're human. This is human. Organic standards aren't necessarily the answer to all those things. Most of those processors would still have HACCP and other standards that they go by. So you can't point to organic standards and say that is the cause of the problem.

Mr. Brian Storseth: I'm not trying to demonize organic here. I'm simply trying to say that there is another side to the story, and when we're talking about consumer knowledge, consumers should be made aware of all of it.

Thank you very much for your time, gentlemen.

The Chair: Thank you very much.

Mr. Arnold Taylor: There are off-farm jobs all over the place, so something is wrong with this picture. A guy with a million-dollar debt and an operating loan and cashflow situation shouldn't have to get an off-farm job, and his wife—

Mr. Brian Storseth: I don't disagree with you on that, sir, but your comments led towards believing that organic was the answer to that. First, my guys don't go hat in hand to the government, and second—

The Chair: It's his time. Just let him finish.

Mr. Brian Storseth: —that is not the answer.

The Chair: Okay. Thank you.

I want to thank our witnesses for coming here today. At some point a study will be prepared and will come before the committee and hopefully be passed and presented before Parliament. At that time, I'm sure you'll be able to get a copy of it.

Thanks again for being here.

The meeting is adjourned.

Published under the authority of the Speaker of the House of Commons

SPEAKER'S PERMISSION

Additional copies may be obtained from: Publishing and Depository Services
Public Works and Government Services Canada
Ottawa, Ontario K1A 0S5
Telephone: 613-941-5995 or 1-800-635-7943
Fax: 613-954-5779 or 1-800-565-7757
publications@tpsgc-pwgsc.gc.ca
http://publications.gc.ca

Also available on the Parliament of Canada Web Site at the following address: http://www.parl.gc.ca

Publié en conformité de l'autorité du Président de la Chambre des communes

PERMISSION DU PRÉSIDENT

On peut obtenir des copies supplémentaires en écrivant à : Les Éditions et Services de dépôt
Travaux publics et Services gouvernementaux Canada
Ottawa (Ontario) K1A 0S5
Téléphone : 613-941-5995 ou 1-800-635-7943
Télécopieur : 613-954-5779 ou 1-800-565-7757
publications@tpsgc-pwgsc.gc.ca
http://publications.gc.ca

Aussi disponible sur le site Web du Parlement du Canada à l'adresse suivante : http://www.parl.gc.ca