House of Commons
CANADA

Standing Committee on Agriculture and Agri-Food

AGRI • NUMBER 053 • 3rd SESSION • 40th PARLIAMENT

EVIDENCE

Thursday, March 3, 2011

Chair

Mr. Larry Miller

Standing Committee on Agriculture and Agri-Food

Thursday, March 3, 2011

● (1100)

[*English*]

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

I'd like to welcome our witnesses and thank you very much for coming today.

We're going to start right off with Ms. Christie Young from FarmStart.

You may have ten minutes, please.

Mr. Easter.

Hon. Wayne Easter (Malpeque, Lib.): I'm not going to read the motion, but I want to make the committee aware that there is a motion in which we are proposing that we recommend the government place a moratorium on any approval of Roundup Ready alfalfa until the government completes public research into about six different areas. This is just so that it's on the record, so that people know it's there and can give us feedback.

The Chair: Okay.

I believe it just came in today. As of right now, it's on the bottom of the list of motions that we'll be dealing with next week.

Thank you.

Ms. Young, go ahead, please.

Ms. Christie Young (Executive Director, FarmStart): Thank you very much.

My name is Christie Young, and I'm the executive director of FarmStart. We are a not-for-profit that was created to support a new generation of farmers.

Over the last five years we've been developing flexible programs in Ontario that provide new farmers from all backgrounds with the resources, tools, and support necessary to not only get their businesses off the ground but to thrive.

We are developing incubator farms and offer small start-up grants. Over the last three years, we've directly helped over 40 new farmers get their businesses started.

We offer a range of training and resources for prospective, planning, start-up, and re-strategizing farmers. Within the last three years, we have had 1,500 people come through our courses and workshops.

We've also developed a FarmLINK program that helps farm seekers connect with farmland owners and retiring farmers. Our website, farmlink.net, has only been operating for two years and currently has 600 profiles. We run consistently packed “Lucky in Land” meet-and-greets for these landowners and farm-seekers and are starting a coaching program for non-traditional farm succession.

We have begun to witness a strong resurgence of interest in healthy food and farming and see increasing numbers of young people from farm and non-farm backgrounds, new immigrants, and second-career farmers who are interested in pursuing a future and a livelihood in agriculture. They are interested in building entrepreneurial, economically viable, and ecologically sustainable farm enterprises. There are many challenges facing these new entrants, and yet there are also many opportunities, and they bring skills, connections, and passion that can lead to innovation and renewal.

What I have just described to you is what we at FarmStart see happening in our aging agricultural sector, where prospective new farmers are coming from, and where they are heading. More specifically in this discussion today, I want to communicate to you the kind of agriculture and food system that they are interested in being part of.

I would like to propose that the topic for today, how to ensure the viability and success of biotechnology in agriculture, is not the question you should be starting with. Any technology should be evaluated, developed, and adopted or discarded based on the purpose it serves or the harm it can do. Before we go down the road of adopting new technologies, we must be much clearer about where we want to be headed. What do we need or want to achieve in our food system today and for successive generations?

Over the last 10,000 years we have been adopting, testing, discarding, and building upon technologies that have helped us to farm better, produce more, work less hard, and so on. Biologically based technologies and techniques have been part of this agricultural development for much of this time. What makes some of the current biotechnologies different—in particular, genetically modified organisms—is that they are actually a means that will ultimately determine the ends, as they can negate other possible options once released into the environment through contamination, interbreeding, genetic mutations, and so on. This is very clear in the GMO alfalfa debate around organic production systems and in the debate around GE salmon with wild salmon populations.

So far, looking back on the past 15 years, it seems that the use of genetic modification in agriculture is predicated on and arguably is dictating a system of chemically dependent, mono-crop, energy-intensive, and land-extensive agriculture that is largely controlled by agribusiness interests. And while production has increased, it does not seem that farm viability has.

In considering deterministic, far-reaching, and unpredictable technological means, we must take a precautionary approach to regulation and release, by investing in public sector research and peer review, trial replication, and proof of intergenerational "lack of harm" that takes into account environmental, economic, and human health impacts.

That said, what I think is more important for the discussion today is how we are deciding on what ends we hope to achieve. A means should not determine the end, and we cannot continue to let the mere existence or possibility of a specific technology dictate the kind of agriculture we will end up with. In this context, those driving the creation of and profiting from biotechnologies should not be determining this end.

What kind of food system do we, as a growing, innovative, and creative human society, want and need to survive on this finite planet? We all want sustainable agriculture that will be equally, if not more, productive in the future; healthy and safe food; and viable farmers around the world.

I have seen some of the so-called New Vision for Agriculture initiative that has been prepared for the Davos economic development forum by McKinsey & Company. This report is funded and prepared by the same corporations that promote GMOs, along with junk foods—the very ones that now proclaim their interest in solving the global food crisis with their technology and know-how. The 17 global companies that championed this initiative include Archer Daniels Midland, Monsanto, Unilever, Syngenta, Walmart, DuPont, and so on.

● (1105)

I would suggest strongly that their claims need to be met with a careful scrutiny of their track record, and especially their concentration of power, the increasing use of agriculture chemicals—in particular, herbicide use—and the loss of farmer sovereignty over seed.

But this handful of companies are not the only ones that have ideas about where we need to head. There are many other peer-reviewed and comprehensive sources for road maps to a sustainable and productive agricultural future that can help us decide what technologies we use.

The International Assessment of Agricultural Knowledge, Science and Technology for Development's global report is one source, with over 2000 scientists and almost every international agricultural organization in the world involved. It is supported by every country except, notably, Canada, the U.S., and Australia. This report clearly articulates the growing consensus on the need for production and distribution systems that are equitable, ecological, resilient, biodiverse, localized, and that allow sovereignty over genetic resources.

I would be happy to talk about the specific recommendations further. I will mention that one key recommendation is to build healthier, more productive, and resilient agricultural systems; that is, to start with our soils. The farmers I work with and farmers around the world understand that investing in soil structure, organic matter, and biological life is critical to the health of their crops and to their bottom line.

For example, the Rodale Institute has been running comparative farming system trials for over 27 years in the United States, comparing organic farming systems with what we now term "conventional agriculture". The trial shows an increase of over 30% in soil organic matter and 15% in soil nitrogen under organic management over 27 years. The production or yield of the organic farming systems consistently matched conventional management in good years, but in drought years, organic corn and soybean yields exceeded those of conventional management by 28% to 75%.

In addition to the increased resilience of these farming systems, the trial demonstrates several other critical benefits. Concerning energy use, this trial showed that diversified organic agriculture, with cover crops, reduces the use of fossil fuel energy by 33% to 50% when compared with a conventional agriculture system.

For carbon sequestration, the side-by-side comparison of ecological and conventional corn and soybean production showed that organic fields consistently sequester more than 1,000 kilograms per hectare per year of carbon, which is equivalent to capturing more than 3,500 kilograms per hectare per year of carbon dioxide.

Importantly in terms of the economic viability of these farming systems, an economic analysis at the University of Maryland has shown comparable returns in organic systems even without calculating the organic price premium, which currently ranges between 35% and 240%.

There are also many examples of useful technologies. The front-mounted crimper crop roller is a roller that sits on the front of a tractor; it can improve nutrition and reduce the need for tillage. It enables farmers to flatten and kill a rye cover crop while seeding out their seeds or seedlings in one pass, without the need for GM seed varieties or herbicides.

Precision technologies such as flame-weeding have allowed organic farmers to grow very successfully to large scales. Innoculants to help nitrogen-fixing cover crops take nitrogen from the atmosphere and make it available to plants have been very significant. We need to continue to better understand the role of rhizobia bacteria that attach to roots in our crops to fix nitrogen for us and the use of biological pest control in greenhouse management.

Those are just a few examples of very useful technologies. This brings me to my recommendation for your consideration.

The federal government needs to fund appropriate research and extension. This research and extension needs to be responsive to farmers' needs and new opportunities, as well as to ensure the long-term protection of our critical resources: our soil, our air, our water, and our ecosystems.

● (1110)

Mr. Randy Hoback (Prince Albert, CPC): I would like the witness to stick to the study, which is biotechnology.

You seem to be wavering into a variety of other farm policy issues that aren't relevant to the study that's before us today.

Ms. Christie Young: I'm talking about examining technology in a broader context, and biotechnology is one type of technology. I'm giving you examples of other technologies.

Mr. Randy Hoback: Yes, but this study is actually on biotechnology, not the other technologies. So if you could relate to biotechnology, I'd appreciate it.

The Chair: I understand.

Hon. Wayne Easter: Larry, I don't want to get into debate on this, but, from my perspective, we don't need to narrow the focus. I've raised questions at this committee many times suggesting that maybe we should be researching in other areas and putting the investment into some other technologies—some of the ones that Christie is talking about.

Is all the money going to the so-called biotech places that we're looking at? I think there are opportunities here for many industries, and I wouldn't want to narrow the focus of what we're doing to ignore those areas.

I think what Ms. Young is saying is appropriate.

The Chair: We have another point of order.

Mr. Bellavance.

[*Translation*]

Mr. André Bellavance (Richmond—Arthabaska, BQ): I would like to respond to Mr. Hoback's point of order. I am surprised that he interrupted a witness. We have always given our witnesses some leeway. A number of subjects might be of public interest. We are not in the habit of censoring people here. I understand that, if someone drifts completely away from our subject, we could politely call them back to order, but I believe that, from the outset, Ms. Young has in general terms been talking about the subject that we are discussing today.

[*English*]

The Chair: Thank you.

I'm sorry, Alex. I didn't realize you had a point to make.

Mr. Alex Atamanenko (British Columbia Southern Interior, NDP): I think Randy's point could be taken in questioning. I think we should allow Ms. Young to continue speaking and then we can bring this out in questions and discussion.

Ms. Christie Young: I'm speaking about research and extension and evaluating technologies.

Our research and extension need to empower farmers and provide them with techniques and tools to farm better, to be more resilient, flexible, responsive, and productive. We need educated, professional, and experienced farmers today and 30 years from now, and we need more of them if we are going to feed our growing populations. We need to ensure that our most productive farmlands around the world are in the stewardship of sustainable farmers. We need resilient agriculture that can weather the existing and increasing climate-related and pest events, as well as the ups and downs of markets, trade, and public or political preferences.

The best way to do this is not to put all of our eggs in one basket. I would caution against reliance on the biotech or any other profit-centred industry to come up with the innovative and useful technologies, when they are not necessarily connected to the public interest; nor are they necessarily connected on the ground, as the farmers are, in each different geographic region. We need more people involved, more research institutions, and extension infrastructure that engages our farmers in defining priorities and sharing their knowledge here in Canada and around the world.

Thank you for your time and all the efforts that you have taken in this study.

The Chair: Thank you very much.

We now have, from the National Research Council of Canada, Mr. Konecsni.

You may take ten minutes, please.

Mr. Jerome Konecsni (Director General, Plant Biotechnology Institute, National Research Council Canada): Thank you very much.

By way of introduction and providing a context, I'd like to give you a little bit about my background, because I think it will help you shape the information that I'm going to be presenting today.

I've been with the National Research Council for about three years. Before that I worked with Genome Prairie, which is a federally funded agency, and then I spent nine years in the private sector in a natural health products company, one of Saskatchewan's largest agri-value companies, which has grown up from regional crops. The primary marketplace for those was natural health products and organic foods. Before that I was a teacher, a farmer, and a research manager.

So I have multiple perspectives, and I think one of the things that brings to my background a unique perspective is that while I was working for a company in the private sector, at one given point in time I was developing an organic flax protein for market in the organic market and at the same time was managing a genetically engineered product that would see fish oils produced in plants.

So I've seen both sides. I've been actively involved in both sides of this, and I guess I have a firm belief that both sides can live and coexist peacefully. I think what we have to try to do is take the emotion out of the argument and look at what we are trying to achieve.

The objective and our need is to grow the world's food supply by double by 2050, by most estimates. We need to work together to do that. That is the big issue; that is the solution.

Canada is in a unique position to take a leadership role in responding to that need. Look at the kinds of things Canada can do. It was about a year ago now that we were celebrating the fact that we owned the podium at the Olympic Games. Well, I believe that feeding the world is a bigger game and a much more important game. I believe that by working together on a reasonable and rational approach to science and technology, we can own the podium in agriculture.

That's my introductory message, and it's where I come from.

So let me talk a little. I have a PowerPoint presentation, and copies will be made available to you. What I want to do is to present to you some of the tools that are considered ag biotechnology tools.

I know that in previous meetings you had presentations from plant breeders and scientists who talked about biotechnology as a tool kit. One of the messages you heard is that biotechnology does not equal genetic engineering; it is one option for using biotechnology, but it is not synonymous with biotechnology. I believe that many of these tools that I'll talk a little bit about can be applied to improving the productivity of organic production systems. So it's not an either/or, and I think we need to look for synergies and ways to work together to address the bigger issue.

But let me just talk a little bit about some of the benefits of ag biotech.

The first slide states—and I won't go through all of this, because you have it, but let me just feature some of the major points—that 90% of the farmers around the world who have benefited from biotechnology are small, resource-poor farmers from developing countries.

● (1115)

Mr. Bev Shipley (Lambton—Kent—Middlesex, CPC): On a point of order, I don't have that.

Do we have the slide?

The Chair: We do, but it has not been translated, so it cannot be handed out, Mr. Shipley. It will be translated.

Mr. Bev Shipley: Okay. This is just so you know that when you're talking, we don't actually have—

Mr. Jerome Konecsni: We'll make sure you get a copy; I think that's being worked on.

Mr. Bev Shipley: Thank you.

Mr. Jerome Konecsni: We have eliminated 10 million metric tonnes in greenhouse gas emissions through fuel savings, and we have saved $1.8 million in diesel fuel from reduced tillage and plowing.

Here's another fact that talks a little bit about the balance and who the winners are in biotechnology: $44 million represents the increase in net income for farmers who are involved in using biotechnology solutions.

Those are some of the facts about the benefits that have been generated in 13 years of what they call “GM technology”. But let's talk about the bigger picture—namely, what are the challenges we're facing internationally?

Today 10% of the available land on the planet is arable—permanent crop land. We have to produce much more food for a growing population with a minimal amount and reduce our environmental footprint. An update from FAO suggests that we will need to increase by 70% our food supply by 2050. Other estimates and studies have indicated a doubling of our current food supply. From this, 20% is expected to come from unused land. Developing countries will increase their import of cereals by 157% by 2030, and oilseed contribution to world calorie consumption will increase by 125% by 2030.

This is the context in which we're operating, and these are the challenges we face as a globe. I say that these challenges represent a huge opportunity for Canada because of our agricultural infrastructure, our land capacity, and our excellent farmers here in Canada.

Let me talk a little bit about the National Research Council. The National Research Council's role in Canadian agriculture has been a unique one, and our focus has been on technology. We do not have plant breeders, but we've supported the work of plant breeders. Perhaps one of our biggest contributions to the Canadian economy was as a co-developer of canola, which over the last two to three years has been estimated as a $14 billion to $16 billion industry in Canada. We've played a significant role in that. Almost every variety of canola that was GM has utilized some of our technology over the last 15 years. That was a major contribution to canola.

GM technology is not the only approach we're taking. We're looking at working with the pulse industry and developing genomics resources for them. They are non-GM. Their marketplace does not accept GM, and their approach is non-GM, so we're using and applying our technologies to help improve the productivity, improve the yield, and improve the healthiness of their products without a GM approach. We're doing the same thing in wheat and we're doing the same thing in flax.

The National Research Council itself, at the Plant Biotechnology Institute where I work, has two major programs. One is crop improvement and the other is value-added products from agriculture and from plants.

In the crop genomics, it involves crop production improvement. Again, the priorities, the type of technology, and the approaches are driven by market needs and requirements. In canola there are GM approaches that we're taking, and we're also pursuing non-GM approaches in canola. In wheat and flax and pulses, as I said earlier, it's a non-GM approach.

On the other side of our enterprise, where we're working on value-added products from plants, one of the areas we're looking at is co-products from flax. There are many interesting components of flax. I mentioned earlier some work I had done on isolating flax protein, which has an incredible property and value every bit as good as soy protein.

We also have been involved in developing products that have been used in malaria vaccines and other types of product that would be used for vaccine adjuvants that are produced from plants, with non-GM approaches to those as well.

That gives you a little bit of context in terms of what we do. All of those programs are supported by a number of technologies and capabilities that NRC has invested in and developed over the last 15 to 20 years.

Our relationship with Agriculture Canada is a close one, and it's growing closer year by year. We have major collaborations in many areas of Canada. In Saskatoon there's a very close working relationship between Agriculture Canada and the NRC.

Of course, you were in Prince Edward Island, and you saw the facility, which is an NRC-Ag Canada facility. That's another good example of how the two federal labs and organizations are working on their strengths.

● (1120)

As the science director from Ag Canada in Saskatoon said, Ag Canada is linked to producers, NRC is linked to industry and technology, and together they cover the value chain. We find that this relationship and this partnership is only growing.

Let me talk a little about some of the specific technologies. In the presentation you'll see that we give a technical definition of some of these technologies, but more important, we talk about how that technology can be used. For example, one of the core technologies is genomics and DNA sequencing. Those are the basic building blocks of every plant and every biological organism. Generating genetic resources—understanding all of the genes and the roles they play—is an incredible part of building better plants and better crops, whether it's yield improvement, drought resistance, or nutrient efficiency. This data is the building block for that.

We have what we call next-generation sequencing capability at NRC, which has developed resources for over 30 different crops that are grown in Canada.

Molecular markers are very interesting tools that build on this genomics capability. Just to give you a quick idea, what we do is identify genes or gene sequences that are associated with a specific trait in a plant. When the plant breeder is trying to identify a particular plant with a specific trait, whether it's drought tolerance or increased yield, he can identify that plant through DNA earlier on without having to grow the whole plant out. As a result, you can reduce your product development time by 30% to 50%.

For those of you who've been involved in business, reducing product development time by 30% to 50% is huge in terms of cost, time to market, and all those other factors related to a viable business and a viable crop. We are working with the pulse industry, the wheat industry, the canola industry, and the flax industry to develop these markers so that breeders can accelerate their time for developing new varieties.

There are a lot of non-GM technologies out there. I'll just quickly refer to them. One is called TILLING mutagenesis, which is a process used to generate mutations that can then be selected for unique traits that would otherwise take an infinite amount of time to find in nature.

There's also an interesting technology called plant phenomics, or phenotyping. The value of any crop is in the actual phenotype. It means that the physical product at the end has the properties or the qualities you're looking for. There's an interesting technology Australia has embraced. They've developed a $50 million facility to help breeders evaluate their traits.

The last comment I'll make, then, is on the opportunities in wheat. If you talk to farmers across Canada, you'll know that wheat is really under a lot of pressure. It's the weak link in the crop rotation. The profitability of wheat has been challenged over the last number of years. So one area we are focusing on with our partners is developing and improving the profitability, the yield, and the quality of wheat varieties across Canada.

We're working with Ag Canada, the universities, and the producer groups in variety development across Canada. In terms of Canada's competitiveness in wheat, of the five top exporters of wheat, Canada's productivity gains are the lowest. We have had a less than 1% productivity gain per year over a 50-year period. France is first at over 2%. Canada is 0.87%. Australia is fourth, at 0.92%, and that is in spite of 10 years of severe drought in Australia. So Canada's competitiveness is being challenged in wheat.

● (1125)

We're working hard with our partners to turn that around and make wheat a profitable crop in a farmer's rotation. Our objective is to provide a variety of products so that farmers have a choice of many varieties in their rotation that will all be profitable. Developing one crop and having only one profitable crop in your rotation is not a sustainable venture. We see what's happening. Because canola is the one crop farmers have been making money from, what they've been doing is overgrowing canola, and we're starting to see some issues with disease in canola. We have to turn that around by giving farmers other options to choose in their rotation that are just as profitable as canola.

The Chair: Okay, thank you.

Mr. Jerome Konecsni: That summarizes my comment.

Again, my last plea is let's work together. There's a bigger picture out there in agriculture. There's a huge opportunity for Canada. We need to work together, and we need to work in a reasonable fashion, using solid information and scientific facts.

The Chair: Thank you very much.

From the Science Media Centre of Canada, we have Ms. Penny Park and Ms. Suzanne Corbeil.

You have 10 minutes, please.

[*Translation*]

Ms. Penny Park (Executive Director, Science Media Centre of Canada): Thank you very much.

Ladies and gentlemen, I am very pleased to be with you today.

[*English*]

I am Penny Park, executive director of the Science Media Centre. With me is Suzanne Corbeil, who is the founding chair of the SMCC. Our testimony today is to inform you of the role the SMCC might play in shaping public policy.

The whole idea for the SMCC was born in part out of problems and challenges that were faced in communicating biotechnology to the public. It was about 10 years ago that the British House of Lords' select committee on science and tech published their report, which was in great measure a response to tabloid headlines on "Frankenfood", talking about genetically modified organisms and media controversies over BSE and the MMR vaccine. That media coverage, as I'm sure you know, had tremendous policy implications in the U.K.

In its report the select committee referred to a sense of crisis among the scientific community and an emerging anti-science mood. So they called for suggestions on how to meet that challenge. What they came up with was this idea of the Science Media Centre. That is because the media is the place where the public gets its scientific information. Into this environment, the Science Media Centre in the U.K. was born. And it has spread. Now there's a Science Media Centre in Australia, New Zealand, Japan, and one is going to be opening in the fall in Denmark.

We opened at the end of September of this year. It is a non-profit charitable organization set up to help journalists cover science when it hits the headlines. Our ultimate goal is to raise the level of discourse in Canada on issues of a science nature by helping journalists get access, on their timeline, to good quality evidence-based research. We believe that media coverage of science that is more informed, accurate, and incisive will help increase public engagement, and it will also benefit, not only the scientists and the journalists, but policy-makers and the public as well.

When we say science, we mean everything: natural, social sciences, engineering, biomedical—all aspects of science. As you know, too, these stories are pervasive. They underline major issues we face as a society—biotechnology being one of them. And biotechnology, of course, has incredible financial ramifications for farmers, economic implications for the country, and environmental consequences locally and globally.

I have some statistics from a published report, *Making Sense of Emerging Technologies*, which was prepared by the Genome Prairies GELS team at the University of Calgary, in September 2005. I think they are particularly interesting. While 69% of Canadians believe biotechnology will be beneficial, fewer than 25% believe specifically that genetically modified food will improve their life. A majority of Canadians believe their government probably doesn't do enough to study and manage the risks associated with biotechnology, and 85% of Canadians agree that the government should lower the use of biotechnology until more is known about the risk. It would seem that much remains to be discussed about biotechnology: what it is and what the risks and benefits are.

We need to have this discussion. We recognize that the media is where most Canadians get their scientific information, but at the same time the media is under an incredible stress. The financial business structure is imploding. There are fewer specialist journalists who are familiar with the complexities of science, and today's journalists are required to produce more stories, more quickly than ever before.

This is where the Science Media Centre of Canada comes in. We offer these sorts of services. Twice a week we send out a heads-up, a digest of significant stories that are about to be published in the major journals. That comes out in Canadian research news, conferences, and events of potential interest to registered reporters across the country. We provide this service in French and English. We have a rapid turnaround. In our office, we will take calls any time, 24/7.

● (1130)

Reporters can call us if they're working on a story and we will connect them to experts, like the ones who you're familiar with, I'm sure, such as David Waltner-Toews and Andrew Potter. As I say, we respond 24/7 on the timeline of the journalist. These experts are vetted not just for their scientific credibility but also for their ability to be able to communicate effectively with the media.

We hold webinars, online briefings on science topics that might be particularly complex, and these are done on the Internet. We can have experts, a panel of four, in Prince Edward Island, Victoria, Quebec City, and Ottawa, and journalists can call in and listen to the presentations by the experts, and also ask the experts questions.

We are also holding workshops for scientists, helping them understand how the media think and operate. We just had our first one at the Waterloo Institute for Nanotechnology a few weeks ago.

We're also providing introductory workshops for journalists—we're working on this—on such things as handling numbers, how to read scientific studies, and that sort of thing.

While there are also complex stories that are in the news a lot, we've also started building a database of backgrounders that are vetted again and are more detailed. For example, we had one recently on medical isotopes.

As far as our current status is concerned, we have more than 120 organizations from private, public, and corporate sectors who have donated $5,000 to become charter members, and a number of repeat funders have allowed us to open our doors.

We have two media officers, one in Montreal and one in Ottawa, providing our services, as I say, in English and French.

We have, to date, over 185 journalists who have registered for the SMCC, and registration is mandatory because the information we send out is frequently embargoed so they have to say that they will respect embargoes. They range from CBC/Radio-Canada, *La Presse*, the *Calgary Herald*, TVO, the major outlets—and it's growing as we become more well known.

We have a database of key experts, and our website has recorded more than 5,000 hits so far on comments from these experts posted online.

As I mentioned, we have webinars. We've had four. Those four webinars have resulted in more than 60 stories.

Material that we are providing is being picked up internationally as well. We've already had Canadian researchers quoted in the U.K. and in Australia, providing, in fact, a wider platform for Canadian scientists.

All of these services are provided free of charge. Currently, we're focusing on a start-up fundraising campaign for $2.5 million to establish ourselves with a strong financial base. After initial start-up costs, we project annual operating costs to be approximately $700,000 a year. Because we're a journalistic organization, no one source will contribute more than 10% of the operating budget.

The other part of the equation here is the scientists. We strongly believe that the scientists must step up and enter the discussion. They are the experts, and Canadians need to hear about their research in order to make informed decisions. At the SMCC that's what we're trying to make happen. We're not here to promote any one point of view at all. What we want to ensure is that good quality evidence-based science is represented at the table so that with an open and transparent discussion the public can be informed and engaged on these issues that drive public policy. We believe science has nothing to fear and everything to gain from more openness, even about its disagreements and uncertainty.

One of the most memorable quotes in a report that just came out earlier last year from the U.K. on science in the media is that “journalists get terribly excited by a glimpse of the ankle, but not at all excited by the full striptease”. That means, of course, that if you're open and above board, it gets much better coverage.

● (1135)

Media abhors a vacuum, and when experts are not readily available, that vacuum can be filled with unreliable information.

Government scientists can be important contributors to this discussion. By restricting their public voices with unrealistic delays, filters, and approval roadblocks, we are depriving Canadians of their expertise and knowledge. It is our hope that agriculture and agrifood issues will be prominently discussed through the Science Media Centre of Canada and that this sector will continue to actively support our start-up.

Being open about scientific issues and controversies can only lead to a better informed public debate on an issue. A higher level of public debate feeds into better policy on science issues. Evidence-based scientific information is an element, even a pillar, of policy, and having an open, lively discourse in the Canadian public is essential for a healthy democracy. And I'm sure it will make your jobs easier.

● (1140)

The Chair: Thank you very much.

We'll now move into questioning.

Mr. Eyking, you have seven minutes.

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

And I thank the guests for coming here.

Penny, I'm going to ask you the first question. What your group is trying to do is interesting, and I think it's important, but I have a couple of questions.

You mentioned you get some funding and support from other media outlets. Do you get any funding from people like the Monsantos of the world, the science people who are producing GMOs, and other...?

Ms. Penny Park: We have funding. Maybe Suzanne could answer that.

Ms. Suzanne Corbeil (Founding Chair and Champion, Science Media Centre of Canada): Our funding comes from 120 different sources that have contributed very small amounts to help us go forward, because being a journalistic organization, we'll only accept.... Monsanto itself has not contributed at this point. We do have people within the agriculture...such as Dow Agro and other agricultural firms, but not Monsanto at this point.

Hon. Mark Eyking: And would they feed you information?

Ms. Suzanne Corbeil: No.

Hon. Mark Eyking: So you research it, and whatever. You're on your own. Okay, that's fine.

Ms. Penny Park: That's right. We are funded and a charitable organization.

We have experts. On a controversial issue, for example, we would have a range of opinions. We would decide who the experts were that we should have in this particular area and what the bona fide scientific response and aspects were that we could talk to.

Hon. Mark Eyking: That's fine.

I have quite a few questions for all the panel, so I'm going to go quickly.

You talked about the anti-science mood in—I'm still with you, Ms. Park. Sorry, I still have one more question. On this anti-science mood in Europe, you mentioned how they've kind of gone off the rails. My sense is that you're trying to make things more right or balanced. What's your quick opinion on some of the reports coming out of Europe on GMO feed that's been fed to mice or hamsters and that is causing reproductive problems or smaller offspring? What's your sense on that?

Ms. Penny Park: I am not really—

Hon. Mark Eyking: Do you guys provide any coverage on that?

Ms. Penny Park: We haven't yet. We're just starting. We have a very limited staff. However, I would say that it is a very important issue to be discussed and something where we would....

The way our organization is set up, we have a scientific advisory panel, which has about 20-odd experts in different areas. We go to our scientific advisory panel and ask them about these studies. For example—and I'm not familiar with the study you're talking about—if something is coming out in the media and we see it and think it's going to garner a lot of attention, we go to our research advisory panel, who are really the gold-badge panel of the country, and we ask, "What do you think? Is this important? How is this going to tie in? Is this something we should be looking at?" And then we could get comments from a number of different sectors and a number of different experts to cover the range of opinion, and present it either in hard copy or in a panel discussion.

Hon. Mark Eyking: Okay. Thanks.

Jerome, you mentioned all the challenges we have in the crossroads in agriculture to feed the world and how Canada is going to be on the podium as food producers. You also mentioned that we're kind of falling behind on our production of our millions of acres of grains.

I'm going to you, Ms. Young, on that challenge. You are saying we are not really producing everything the right way in this country right now. You're saying there are other methods of production—healthier, more productive systems. Linking you two together—and you're talking about working together—how can your systems bring us to where we should be, as the best producers of the world, or the best stewards of our land?

I'm throwing that out to both of you, and I hope there is some sort of consensus here.

● (1145)

Mr. Jerome Konecsni: I have lived in both worlds at the same time. I've had some practical experience and have seen the reality. I really believe there are a number of things. Some of the technologies I mentioned quickly today—and there's more detail in my presentation—could be a big help in improving organic production.

It was interesting to hear about the studies that Christie mentioned, but from my experience of 10 years in organic flax production, there was a 25% to 30% yield penalty for organic production, on average. In some cases it was worse than that, depending on the conditions. So it was a real issue.

One of the things we invested in was using technology. We worked with a computer at the University of Saskatchewan to do things that would improve the productivity of organic flax. For example, if you can reduce the growing cycle of flax by 10 days, you can seed it later and kill some of the emerging weeds when they come up when you seed.

Hon. Mark Eyking: I want to make sure there's some time left for Christie.

Mr. Jerome Konecsni: Sure.

I think we can look at a number of ways in which we can support and improve organic production, but at the end of the day we want healthier and safer food with less environmental impact. Those are primarily the objectives of most GM research and organic production in Canada. So I think there needs to be real, meaningful dialogue.

Ms. Christie Young: A lot of these sources from which we can get information on organic production systems come out of the United States. We have one organic agriculture research centre in Canada based out of Truro, Nova Scotia.

The Rodale Institute is one that isn't privately funded, in terms of getting money from the corporations that would then be adopting and selling those technologies or products. I think that's probably the most critical difference between the relationships that exist with the private sector in agriculture and public research institutions.

I completely agree that there are a lot of technologies that could be useful, but we have to understand what the limiting factors are. If it's weeds, then we could take one path where we looked at herbicides and other kinds of killing-weed technologies, versus weed suppression or weed prevention that could take a different approach. I think that's where we have to start.

We have to step back and ask, what are the limiting factors that are preventing us from producing the quantity or quality of food in which we're interested? What are the different ways we can get there, and how do we figure that out? I think it has to be publicly funded for us to be able to figure it out, without a profit motive behind it.

The Chair: Thank you very much.

We'll now move to Mr. Bellavance for seven minutes.

[*Translation*]

Mr. André Bellavance: Thank you.

Mr. Konecsni, like Mr. Eyking, I noted your comparison of the importance of feeding people and investing in nutrition research and the huge investment that was recently made for the Vancouver Olympic Games. In your comparison, you said that we should also consider the fact that we have huge priorities and huge concerns when it comes to the importance of feeding people.

Let me also add that 1 billion people around the world are still suffering from hunger. Given the growth of the population, unfortunately, we will not be able to solve this problem in the short term. So totally agree with you on the importance of feeding people.

You work for the National Research Council as a plant researcher. During our tour, we visited several university institutions that do the same work as you do. To our great astonishment, we learned that there had been a change in the priorities at the Natural Sciences and Engineering Research Council, or NSERC. We were told that they wanted to remove agriculture and food from the list of priorities. We are spending $1.1 billion on research and we want to give priority to the environment, to natural resources, to information technology and to the manufacturing sector, but agriculture and food will be less prominent. Your employer is still the Government of Canada, but this decision will certainly impact your organization.

● (1150)

[*English*]

Mr. Jerome Konecsni: I don't know what the question was. I didn't get the translation.

I guess we should have had a little training course.

The Chair: Did you hear any of Mr. Bellavance's question? No?

Mr. Bellavance, could you maybe shorten up your prelude and ask the question again? We'll be fair with you.

[*Translation*]

Mr. André Bellavance: Can you hear the English translation of what I am saying now? All right.

I really must start again, actually. What I was saying was important.

[*English*]

Mr. Jerome Konecsni: I'm sure it was, yes.

[*Translation*]

Mr. André Bellavance: You said that feeding people is extremely important, as is funding research into doing so. I agree with you entirely, all the more so, since one billion people are still going hungry at the moment. With current population increases, we will not necessarily solve the problem in the short term. So we are in full agreement that the challenges we are facing are huge, but also interesting. As a researcher, you must know that you have a very important role in all of this.

On the topic of challenges and the importance of funding research, when we began our study in biotechnology, during our travels to visit various institutions, research centres and universities, we learned that the Natural Sciences and Engineering Research Council of Canada, NSERC, had decided to remove agriculture and food from its funding priorities. So the $1.1 billion in available grants will be directed more to the environment, natural resources, information technology and the manufacturing sector. I am not opposed to research in those sectors, but I have trouble understanding why a decision was made not to prioritize agriculture and food.

I know that you are in awkward position, you work at the research council and therefore the Government of Canada is your employer. But you are a plant researcher. This change in focus will affect your work as a researcher directly.

Can you say a few words about that?

[*English*]

Mr. Jerome Konecsni: The National Research Council is not eligible for the NSERC funding that you refer to. It is research that is directed at universities; only universities are eligible for it. NRC's funding comes directly through the ministry of industry, science and technology; that is where our funding comes from. This particular change will not affect us.

Agriculture is receiving an increasingly higher priority at the National Research Council. So contrary to whatever...and I don't understand or fully appreciate what the decision at NSERC was, so I would prefer not to comment on that. But at the National Research Council, we have been engaged in a number of internal priorities, strategizings, and external consultations, and I can say that agriculture has risen significantly in the priorities of the NRC.

In the fullness of time, as our strategy unfolds, I think you will see that it will become an increased priority in the National Research Council. That is the only organization I can comment on, because I am not familiar with NSERC funding. We don't qualify for NSERC funding, so it will not have any effect on us.

[*Translation*]

Mr. André Bellavance: I do understand that. We actually heard it from university researchers. They will undoubtedly be affected by that.

Ms. Park, I saw you nodding earlier, do you have a comment to make?

● (1155)

[*English*]

Ms. Penny Park: I was surprised. I'd like to find out why, because I was surprised by their decision. I can't say anything other than that.

[*Translation*]

Mr. André Bellavance: One thing is sure about research, and that is that we have still not got back to the investment levels for research on biotechnology that we had in 1994.

Mr. Konecsni, could you tell me the investment situation at your research centre over the years? Do you have recurring funding or does it vary from one year to the next? Have you had the benefit of increases that provide you with research opportunities?

[*English*]

Mr. Jerome Konecsni: I think the increase in funding for our institute has been constant over the last ten years. We've been building partnerships. One of the things we strongly support and believe in at the National Research Council is domestic prosperity. That is one of the things we look at. What are the benefits to Canada of the research? That will drive anything. We don't exist to generate profits for NRC. We exist to generate value for Canada. So in our programming, benefits to producers are going to be one of the primary objectives.

To that end, we've been forming what we call value-chain consortia around these different crops. A good example is pulse. The pulse industry in Saskatchewan is very productive and very successful. It has grown by 400% in the last five to ten years. They work closely with the University of Saskatchewan. They've plateaued in terms of their technological capacity and they've got a great checkoff plan, so they have resources. So we have received funding from them because they want to start to apply some of our technologies to accelerate and improve and take their breeding programs to new levels using the technology. That is one example of where we receive funding.

We're also working with provincial governments who are willing to support because it fits their priorities. Small companies and producer groups are also investing.

We have consortia that include technology companies, SMEs, food companies, people who are end-users, and provincial governments. We're building a value chain, and I think then what we see from that model is that the research has more direction and has a more applicable use. All the partners that are necessary to make this research relevant and used and end up in the marketplace...that is the model we're advancing. As a result, we've been able to sustain our funding.

If you ask me and any researcher if we would like more money, I think you know what the answer will be. But as I said, I think we're seeing within our own institute, our own organization, a real interest and a real change in priority, in saying they've done some good work and we've funded them in the past. We think we have to find ways to reallocate resources so the priorities and the capabilities they have can benefit all Canadians.

The Chair: Thank you very much.

We'll now move to Mr. Atamanenko for seven minutes.

Mr. Alex Atamanenko: Thank you to all of you for being here.

A very timely topic these days is the global food crisis. Many people are talking about how we feed the world. There are those who advocate and say we need GMOs. In other words, GM technology is necessary to feed the world. On the other hand, you have, I believe, the Union of Concerned Scientists and I think it's a study with the IAASTD—I'm not sure—that's called *Failure to Yield*. It says that GM technology has not improved yield, that any improvements in yield have been through traditional breeding practices or non-GMO biotechnology.

Then we have the extreme example, which I can't help but remember. In India we have that tragic case of GM cotton that was introduced and brought a lower yield, and over 200,000 farmers committed suicide. It's a world tragedy.

Can we feed the world using non-GM technology? Further, there are those at the other end of the spectrum—I've asked the questions and received answers—saying that we can feed the world organically when we look at small plots in different countries that have sustainable agriculture. So can we do it? Is the fact that we're being told we need GM technology a spin coming from these big companies, or do we have sufficient technology and methods to do it?

Maybe I'll start with you, Ms. Young, and work down.

● (1200)

Ms. Christie Young: That's a great question. I personally believe we can feed the world without GM technologies. I think that any technology is part of a social-political-economic system, so it doesn't actually even matter...technology is not determining the production or distribution of food necessarily. I think we have enough food in this world right now to feed everyone who exists on the planet, but it isn't moving to those people for a variety of reasons. We have people who are farming who don't own their lands, and they spend most of their time working in cities and moving back and forth, and they could be much more productive in their agricultural output if they didn't have to move to the cities to work.

I think we are going to have a greater population, and I don't really understand the idea that we should have fewer people producing food for that greater population. I think if we have more people, we can have more people producing food, and we can do it on smaller plots with more intensive agriculture. There are a number of places and examples where this is incredibly viable. Biointensive agriculture is being used in North America, as well as around the world. It is small-plot intensive agriculture that focuses on maximum yield for the smallest amount of acreage, while turning over soil fertility. It's an eight-step, very simple system, and it's produced unbelievable results for small landowners or people in more impoverished places, but it also works for farmers in Canada. We have farmers who are growing five acres of market garden vegetables, and they are averaging $25,000 an acre. They're aiming to make about $60,000 in income—and that's net—and they're doing it in Canada in this market today.

So I think we can think about agriculture differently. I believe we can think about field crops differently as well. We can produce them with companion planting. We can approach agriculture in a different system. Our program manager at FarmStart comes from India, and he was a farmer there for 20 years. He said he spent his education learning about the green revolution technologies, and he spent 20 years trying to unlearn them because he realized what they did to his yields, to the diversity in crops that he was actually able to produce, and to his bottom line. I think this experience has been replicated around the world, and people around the world are trying to unlearn the lessons we've learned in the last 50 years. And we need to help them. We need to help farmers farm better. We have a lot of tools, and there is a lot of knowledge out there that we can share with other people.

Mr. Jerome Konecsni: My initial reaction is I don't think there's one magic bullet. I think science and technology offer us many options, and all of those options should be evaluated, and they should be measured on their safety, on their responsiveness to the market place, on increasing the quality, and on what people really need: healthier, safer food.

So when I look at that...let me give you the example of China and India, two countries we work fairly closely with in our research. China has increased its rapeseed—we call it canola—production by 100% since the late 1970s. It did not use GM technology, but it feels it has reached a limit. It is now looking at a 70% increase in its oil production over the next 20 years, and it still imports. It cannot produce enough to meet all of its own demand. In India it is the same thing. So both countries are looking at GM technology simply because of the speed.

The question is picking the right technology given the time we have to produce that. As I said, some GM technologies will make things quicker and faster. Sometimes you can use non-GM approaches. As I said, I think with improvements in wheat variety, significant gains can be made without GM technology, but GM technology might add another level. So you really have to look at the factor of time, and time is not on our side when you're looking at the kinds of demands and the pressures that are placed on the world's food supply.

It's a complex issue. In India it's not only about how much it produces on an acre; its biggest issue is spoilage after harvest. It has other issues it has to resolve. It's also working on improving its productivity. I think when you see countries like China and India that have taken advantage of all of the traditional breeding tools and technologies and are still looking at GM, you get your answer there.

You can look at our situation with pulse growers and people like that who have been very successful. Pulse has grown its market, but its productivity has not increased. They've been using very successful traditional breeding methods, but they need to take it to another level, so they will bring ag biotech in. They're not pursuing GM just yet, but I think again it depends on the demand and the timeframes in which you have to respond. So I wouldn't throw out one important tool without understanding the implications of that and fully understanding the time you need to take that. GM crops have been in existence for 13 years, and there have been a lot more success stories than failures. I think if you look at the arguments of economic and social benefits that have been derived by India and China, the environmental impact—the amount of reduction in chemicals used in those countries—is phenomenal because of GM technologies.

● (1205)

The Chair: Thank you. Your time has expired.

Mr. Hoback, for seven minutes.

Mr. Randy Hoback: Thank you, Chair.

I want to again thank everybody for coming out here this morning.

You know, the biotech study was something that both Mr. Valeriote and I agreed that we needed to do, just because there are so many misconceptions around biotechnology, what it is and what it consists of. If you review the history of our testimony, you'll see that the first thing a lot of our witnesses want to do is talk about GMOs. They seem to think that's biotechnology. For some reason, they seem to think that biotechnology must be genetically modified organisms.

That's the point I was trying to make to you, Ms. Young. I didn't mean any disrespect. It's just that when we have a study on biotechnology, that's where I expect us to go. I don't expect us to just go to one specific part of biotechnology, but to encompass the whole issue of biotechnology. It's a big enough issue on its own.

I think I'm going to go to you, Ms. Park, because I really like the idea of what you're saying with regard to the Science Media Centre. One of the problems I saw in Europe was that there were so many misconceptions and rumours, and actually blatant lies, published just based on the ability to sell a paper or create a story. Nobody was giving good, proper, balanced science information.

The concern I have with your organization...and it's just a concern; I don't know it well enough to say it's good or bad. How do you get good, proper information that has good, proper peer review that is science-based without one of your advisers having a personal interest in the story? Then, how do you inform that reporter of this information and still guarantee that the reporter writes it in that format?

Have you any comments on that?

Ms. Penny Park: Yes, I do.

Actually, we have a whole selection process for our experts where we take—we think—the best of peer review, which is that we look for recommendations from our advisory panel. We look for who has been funded by NSERC or SSHRC, where they are working, and the kinds of publications they've been getting. For example, are they published in *Science* and *Nature*? Has their point of view been peer-reviewed? That's how we try to keep on the straight and narrow as far as science is concerned.

With regard to ensuring that the journalists themselves follow through at the end, we can't. We can only provide them with good-quality expertise from the start. What they choose to do with it is their right and whatever....

Well, first of all, I'm a journalist from way back, and I know that journalists don't want to be wrong. They want to be right. In many respects, though, they need to understand more about science, that it's not balance to put in the fringe opinion when the consensus of scientific evidence says one thing. It doesn't make sense. As we move forward and as we at the SMCC talk to journalists, it is my hope that they will be learning, too, more about science and about how science is done, and will become more savvy about these issues.

Just to pick up on the point earlier about whether we can feed the world with.... I didn't get a chance to say anything, but I will now: that's a great idea for a briefing. If we are providing briefings with a range of valid scientific opinion, I think we are now providing a focal point for the journalists to start reporting on it, to start learning about these things. It won't be just one briefing. We'll slice up that story in different ways.

● (1210)

Mr. Randy Hoback: Okay.

I'm going to pull it back to the biotech study now. As I said, I see some cautious optimism, at least on my part. Time will tell, but I think what you're doing is great.

When you look at the biotech sector—just with the information you have on the media, and what they know about the biotech sector—what can it be doing to create the proper image? I'm not saying to improve their image; I'm saying to present a proper image, pros and cons.

Ms. Penny Park: I think it's transparency—honestly being willing and able to step up and enter the debate.

You know, science isn't all about “This is absolutely right and that is absolutely wrong.” Things change, too, and I think the more the scientists are prepared to engage and to talk about it, then the more the media and the public will learn that this is how science is done, and these are the risks we will or will not accept.

Science is only part of the equation. I think it is engagement. They have to step up and be willing to speak.

Mr. Randy Hoback: I appreciate that.

Ms. Young, I'm going to challenge you a little on some of the comments you made during your presentation. You talked about a report on organic matter. Can you table that report, please? You were talking about a 25% increase in organic matter in a year. Did I hear that right?

Ms. Christie Young: Yes, it's from the Rodale Institute. They have a website with all of their research.

Mr. Randy Hoback: I farm, and when it comes to organic matter, if we look at the farming practices we had in the seventies when we were going 50-50 or 60-40 with summer fallow acres, the organic matter was falling and falling. It wasn't until we were able to go into no-tillage systems that we started to see the organic matter actually reverse itself.

We also found out that if you start spreading manure you would increase that organic matter quickly. So if you went to areas around Lethbridge or southern Alberta where there were many feed lots, their organic matter was growing rapidly because of the use of manure.

The use of manure for growing wheat and barley is great because it's good organic fertilizer and the crops will never touch the manure. But when you're growing lettuce or strawberries, it can create other issues.

Ms. Christie Young: If it's not decomposed properly—absolutely.

Mr. Randy Hoback: Exactly, that's my point.

I'd like to see that report. I don't think it's appropriate to say that all organics are doing this, because if they haven't changed their cultivation practices they're actually not increasing organic matter; they're decreasing it.

Ms. Christie Young: Absolutely. Tillage is a huge factor in preserving organic soil structure. This is one trial that happened over 27 years. They did organic production side by side with conventional agriculture. I would be happy to send it to the committee. I don't know how to do that, but it's also accessible on the Rodale Institute's website. It's a very well-known study.

I don't argue that all organic farmers are necessarily good organic farmers. There are lots of different ways that we can promote organic matter in soil structure.

Mr. Randy Hoback: Do you think there's any role for the private sector in the creation of new genetics, new seeds, and new products?

Ms. Christie Young: Absolutely. We work with new Canadians who are trying to grow crops they know from home, like okra, bitter melon, and hot peppers.

Mr. Randy Hoback: But I mean private corporations.

Ms. Christie Young: I know, and I'll get there.

They are doing it with seeds they've taken from a variety of different places, and they're not consistently producing. They don't know what their yield rates will be in seeding out seedlings. They could benefit from private sector seed companies growing out the seeds that are hardy and viable for our climate in Canada. They would purchase those seeds.

We need to figure out how to scale up some of these crops that are in enormous demand right now in Canada. So that's one role for the private sector.

I think there are technologies that farmers should have control over, and knowledge and techniques that should be transferred. But I don't think there's no place for private sector companies that serve farmers' interests.

Mr. Randy Hoback: Okay. I was a little concerned that you were saying there should be no role for the private sector.

The Chair: I'll now move to Mr. Valeriote for five minutes.

Mr. Francis Valeriote (Guelph, Lib.): I want to thank you all for coming to speak to us today.

Penny, I want to thank you and your organization for raising the level of conversation. At some point you can tell us how to subscribe or better connect to that source of information. It's very important. But my questions will be for Jerome and Christie.

I subscribe to Jerome's proposition that there is no one magic bullet to feed the world; it will have to be a combination of a number of things. This biotech study is being undertaken because we want to help the biotech industry to the extent we can. For me that's particularly in areas of non-food agricultural products and those areas with biodiesel, plastics, and God knows what else will come from it in the future.

I've heard time after time about the threat to biodiversity when we're talking about GMOs. I believe there's room for GMO crops, particularly with the environmental changes we're undergoing and global warming. But I also believe in the right of organic and non-GMO crops to exist. I've heard time after time about the threat that GMO poses to that right to exist, even with a zero level of presence. I want your opinions on whether or not there are solutions.

I come from a court system where judges used to say to me, “Mr. Valeriote, you guys will be able to produce your own solutions in a much better way, and more sensitive to your sensitivities, than a court will impose.” I believe that in the case of regulations on biotechnology, particularly GMO crops, the same applies: it's better if you come up with your solutions.

I'd like to hear from each of you what you think those solutions might be, and whether common ground can actually be reached.

● (1215)

Ms. Christie Young: Are we specifically talking about GMOs?

Mr. Francis Valeriote: Yes.

Ms. Christie Young: Do you mean the ones that are currently on the market, ready to be released?

Mr. Francis Valeriote: I mean the ones currently on the market or the prospective ones coming out, like alfalfa or wheat.

Ms. Christie Young: I think as has been acknowledged, biotechnology isn't limited to GMOs.

Mr. Francis Valeriote: Yes, I understand that.

Ms. Christie Young: So if you're talking just about genetic modification, I think the question that remains is how any genetically modified organism will interact with the environment once it's released. We don't actually know what happens in terms of protein folding or interbreeding or genetic mutation, which is essentially the framework for evolution. We don't really understand it. So I think we have to take incredible precautions when we release them. It's not that we haven't done things like this before. We've released animals into our environment. We've released invasive plant species we're still dealing with. It's part of humans' thinking that we can do whatever we want and carry things wherever we want to go. There are also things we can't control.

Mr. Francis Valeriote: I want to know about coexistence.

Ms. Christie Young: But we know we can control these crops, and we know that once we plant them, they are out in the environment. There are some crops right now we have to accept coexistence with because they're planted, but there are other crops that are perennial and pervasive and that are much smaller and actually begin to have a life of their own. GE alfalfa is one. I think GE salmon is also an incredibly frightening prospect, because as much as we think we can control containment, we can't. Time and time again, we've proven that we can't.

So if we think the solution is containment, to me, as a farmer and as a person who lives in the environment, that is not a solution. If we think the kind of seed...corn is an example. We have to plant corn. It doesn't travel on its own inside animal bodies. The containment is perhaps more manageable, and we have to accept that it's out there right now. But we can prevent the release of crops not based on the idea of containment, if that makes sense.

Mr. Jerome Konecsni: One of the things I've learned is that the technology that is being developed and what has evolved from the first release of GM technologies 13 or 14 years ago has dramatically improved. With regard to the ability to control it and contain it, there are some very fascinating technologies that are available now—gene silencing, terminator genes. There are all kinds of things that can be done.

But one of the things people need to understand right now has to do with the proposition for developing a new GM variety. For canola, the companies we've talked to say it's going to cost $100 million to introduce a new GM variety. So the trait has to have huge economic impact in order for them to pursue it. That's why we haven't seen a lot of new varieties of GM being developed in new technology. Companies will say that you need 14 million acres of a trait to justify that kind of investment in it.

So there are all kinds of technologies that are available that will make it safer, but there's also a lot of biosafety research going on. Linda Hall at the University of Alberta has done some very good studies in terms of pollen flow and even understanding the probability. Zero just doesn't exist. Zero tolerance does not exist. If anybody tells you that it does, they're not being truthful. That's a reality you have to accept. But the containment can be improved, and it has been improved, I think dramatically, by new technologies that are being evolved. I think that by shifting an emphasis and a focus even more onto that, you could probably even take these to a whole other level from where they are today. But they've certainly made a lot of progress in the last 20 years. We see more and more people....

One of the things that Genome Canada has contributed to Canadian agriculture is that they insist on having a GELS component to their research programs, to look at the ethical, legal, and environmental implications of their research. That is a very interesting and I think very valuable approach, because while you're advancing the natural sciences, you're also looking at the social and environmental impacts. I think that's a very solid approach. I think because of that program there are a lot of researchers who have grown up and developed, and we have more expertise now in that kind of research, on the environmental impact and the biosafety side of things. I think that's one of the lasting contributions that Genome Canada has offered to Canadian agriculture.

● (1220)

[*Translation*]

The Vice-Chair (Mr. André Bellavance): Thank you.

We will now go to Mr. Richards.

[*English*]

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

Thank you all for being here today to share your expertise with us. We certainly appreciate it, and it's very helpful for all of us on the committee here.

Ms. Park, in your opening comments you were discussing the role of your organization, and you mentioned there are a number of things that need to be discussed when we talk about biotechnology. You said that one of them was even what biotechnology is. I think that's actually a great point. I think it relates somewhat to what Mr. Hoback was saying earlier, about how some people have a very narrow definition of certain things, and others maybe struggle to know exactly what it means or what it entails. Early in our study here we had a panel of scientists and researchers from a variety of institutions, and I asked that exact question. What is biotechnology? It was interesting to watch them try to answer, because it actually is a very difficult question to answer.

So I'm going to pose that to the three organizations here today. I'd like to hear from each of you what you would say biotechnology is. How would you describe biotechnology, if you were asked to describe it in 30 seconds or a minute?

Ms. Penny Park: I feel like I'm on *Jeopardy* and I don't have the computer Watson with me to give me a hand.

A voice: Call a friend.

Ms. Penny Park: Well, I would say that biotechnology is the ability to.... You should be asking him first. Let me defer to the scientist, because that's what I would do.

Mr. Jerome Konecsni: I think biotechnology, the semantic definition, is the application of advanced technology—in other words, not average know-how or capability—to biology to develop new products, new processes, and new knowledge. I think one of the best examples and earliest examples of biotechnology is beer and the fermentation system used to generate beer. That biotechnology has been around for a long, long time. I can't remember now, but there have been some recent studies that found that the first beer was made 10,000 years ago, or something like that. That's an example.

So it's not just GM; it's the application of advanced knowledge of technology to biological systems.

Mr. Blake Richards: That's probably the best and most succinct description I've heard yet, and we certainly appreciate that application you used as an example.

Would either of the others like to give a short definition of what you would consider biotechnology to be?

Ms. Penny Park: No, I'd go with him.

Ms. Christie Young: I'm not sure that it would be a working definition for the biotech industry, but I think that understanding biological processes and how we use biological processes within our agricultural frameworks could be considered biotechnology. We've done that in a variety of ways over the lifetime of agriculture as humans. We constantly watch ecological systems and the interactions between different biological components, and we understand how they work and how they can benefit us, from grazing cattle to growing plants to adapting seed varieties. I think there is lots of potential for other kinds of biologically oriented technologies that use an understanding of biological systems to better allow us to benefit from interactions that already exist in ecological systems.

That's probably not what you were looking for.

● (1225)

Mr. Blake Richards: I appreciate that very much.

Ms. Christie Young: An example is the growth of biological pest control in greenhouse management. They use certain pests to combat other pests. They'll bring in a box of some kind of parasitic pest, and that parasitic pest will target a certain pest they're dealing with within their greenhouse system. I would consider that a biological technology.

Mr. Blake Richards: It's always interesting, because I think we all have a different definition in our heads of what biotechnology is. And it may be from our experiences or our knowledge or our education. So it's always interesting to hear the variety of answers to that question.

I'm going to actually focus in now on one specific part of biotechnology, and that is on the GMO side of things.

Mr. Konecsni, I would like to ask you this question, because you've been involved with various types of research, and you have a varied background, a unique perspective, I think, because you have been involved in so many different perspectives and aspects of biotechnology.

Specifically related to GMOs, we've had a variety of viewpoints expressed at the committee, and on one particular panel, quite a wide variety. Often it has become a debate sort of for and against at some of these meetings we've held. So I guess I'm going to ask you to have that debate with yourself. I'd like to hear what you would consider the best argument for genetically modified organisms and what you think is the best argument against them.

Mr. Jerome Konecsni: I think the best argument for genetic engineering and use of transgenic technology is the ability to develop specific applications and products in a quicker period of time. When you look at the end product and the rigour of the approval process—safety testing and toxicity testing—I'll tell you there is no organic product on the market right now, and this comes from my experience of 10 years, that undergoes the scrutiny of safety and toxicity that a GM technology or product does, not even close.

The products that are sold in natural health and dietary supplements and organics...you don't have to invest $100 million in research to introduce a new organic product to the market. And the organic market is fraught with a lot of unsubstantiated claims and products. The clinical research to back up a lot of the claims isn't there in a lot of the natural health products area, and that is a concern for me.

So I think what we have to look at is what is the end. The end game is healthier, safer, more environmentally friendly food. I think that's the end game. And what we have to do is look at things objectively and dispassionately. Emotional arguments are not going to succeed with anybody.

The benefit of organic is that it's the choice of a lifestyle. But if you ask me—and I had this case. I have an 87-year-old father. He was buying flax seed, and I was producing organic flax seed. He asked if he should buy organic flax oil or conventional. I told him I sold organic flax oil and conventional and I told him to buy the conventional. It's not worth the 50% more you're paying for organic flax and the benefits aren't there. The impact on the safety...there is no scientific evidence to say there is more contamination in conventional flax oil. We can't even detect that...the same levels of detection. I told him because he was on a fixed income as a senior to buy the conventional flax oil and that he wouldn't experience any difference in the health benefits. That was my advice to my own father, and I was selling the product.

The Chair: Thank you very much.

Now I'll move to Ms. Bonsant for five minutes.

[*Translation*]

Ms. France Bonsant (Compton—Stanstead, BQ): It is always interesting to see the owner of an organic farm sitting next to someone who sells biotechnology. The farmer always talks about emotions. It really is an emotional issue when the organic farmer, like our witness—and we are very familiar with this because organic farming is becoming more and more popular—is losing income because the farm next door, which is not organic, contaminates their fields. In many cases, as I have said before, organic farmers lose their entire farms, because they lose their organic certification.

The emotion is real. It is not just about moratoria for financial issues. Livelihoods are affected. It is a very emotional issue.

Ms. Young, your organization talks about setting up more and more organic farms. The opposition is not to biotechnology, provided that it is used intelligently, as you say, but with everything going on, what do you fear the most? You tell people wanting to start up an organic farm to be careful of certain things, you ask them if they are sure about their plans, if an average income will come in, and so on. What are you most worried about in your approach for new organic farms?

● (1230)

[*English*]

Ms. Christie Young: The farms we work with aren't necessarily certified organic, but we promote ecological farming practices. We primarily focus on soil health, and we believe the foundation of any farm lies within its soil structure and its health, and you will always have better, healthier crops. You will always be able to weather drought and any kind of drought or flooding or any kind of climate event that we're going to be seeing happen much more easily. Time and time again this has been proven, when you have soil matter and you have a healthy soil structure and you also have a vibrant, living soil structure full of bacteria that do lots of work for us. That's the first thing we talk about.

We also talk about minimizing reliance on fossil fuels and off-farm inputs, because those are things you don't have control over in terms of prices. So when you're trying to build a farm that's going to be viable, if you are at the mercy of oil prices or the price of chemicals that you're going to be applying to your land, then you are at the mercy of forces that are outside your control. And if you want to have control over what you're going to get back and you want to control your operating costs, it's better to minimize your reliance on off-farm inputs and energy sources that aren't renewable.

Those are the primary foundations of any farm business, and that's how our farmers are looking at building their production systems. And then on the other side is the way they communicate what they do to their consumers.

[*Translation*]

Ms. France Bonsant: Have you noticed young people of your generation moving increasingly towards organic products, because otherwise they don't know what they are eating? My next question is for Ms. Park, on another matter: have you done any surveys on mandatory labelling?

Ms. Young, are more and more young people inclined to respect nature, because you don't fool with Mother Nature? At some point, she will come back to haunt you somehow. So we need to live with her, not change her.

Do you see more and more of the generation inclined to respect the land and to eat organic products?

[*English*]

Ms. Christie Young: Absolutely, at least the farmers we work with are. They're not just young people. They're second-career farmers. They're new Canadians. They are approaching agriculture in a way that makes sense to them. They want to be part of an agriculture that's human-scaled and that they can understand; they can't necessarily control it but they can work within a system they understand.

There is a difference between farmers who are trying to work with the ecosystem as it stands, and understand how they can farm better within that, versus farmers who are trying to control it. I think it's much scarier to live a life where you think you're going to control it and then something massive happens and you lose everything.

Our farmers are diversified. They're integrating the different products of their farm. They understand the relationship between the stuff that comes out of their animals and what goes into their soils. They also understand that's what the people they're producing for want. They are connected to their consumers. I think that's part of the driver: they want to live in a community where they produce good food, and they want to feel good about what they're doing.

[*Translation*]

Ms. France Bonsant: Ms. Park, have you conducted a study on mandatory labelling that would include the GMOs in foods, or have people talked to you about it?

Ms. Suzanne Corbeil: If I may, I could respond briefly. At our centre, we currently do not have the mandate to conduct surveys or studies on our own. We are looking for research studies or surveys that have already been done and that shed light on the issue. That does not mean that experts who are part of our group of researchers might not have access to data like that and be able to share it.

Bear in mind that the Science Media Centre of Canada has only been around for four months. We have minimal funding. So for the time being, we are simply looking for existing research and we want to promote it among journalists.

● (1235)

Ms. France Bonsant: Thank you.

Mr....

[*English*]

The Chair: Sorry, you're out of time. You were well over, but that's okay. I was waiting for the answer.

We'll now move to Mr. Shipley for five minutes.

Mr. Bev Shipley: And I know you'll be just as generous.

The Chair: Of course I will.

Mr. Bev Shipley: Thank you, Mr. Chairman.

Just to follow up on a question my colleague asked about what biotechnology is, when we took on this study.... I think what was exemplified here today illustrates the problem we have in terms of people understanding—the general public. We have a panel here of people who are in the know. I look to a journalist, Madam Park, and you struggled to find what the answer is.

What we're finding so far, quite honestly, is that at every meeting we come to there is this almost Frankenstuff about anything outside of organics, that it's all bad. I find that very unfortunate, because I'm feeling and finding that we need to have this balanced approach of hearing both sides. I have great organic farmers. I have great—and doing well—conventional farmers. We've not even talked yet about livestock. We're going to focus on crops today.

With that, I have a question, first of all, for Madam Park. I have to tell you, I am so pleased that we have an organization called Science Media Centre of Canada. I also understand where your funding comes from, and I understand where NRC funding...and I'd ask Madam Young where her funding would come from if she could help.

I'm concerned. There's been this big issue and talk about feeding the world, and I do not want that responsibility to totally fall on the laps of the farmers. You can't do that without talking about corruption in governments, other government policies, the waste of food when it's shipped to these countries—they don't know how to store it. We have governments that won't distribute food. They have their reasons—black marketing.

The other night...likely two or three weeks ago now. And this whole thing about Canada, how we have a billion—I think my colleague said—more people starving or hungry in the world. How do we put a message out? How do we help the agriculture industry carry a message to the consumer so that we don't wear it?

When I went home that night and turned the TV on, when they were talking about the hungry in the world, what did I see first? I saw a combine coming down the field, dumping grain into a grain buggy. I can tell you, likely nobody in the urban area knows what a combine or a grain buggy is, but they know it's a farmer. They didn't talk about the Galen Westons of the world, they didn't talk about the trucking industry, they didn't talk about the distribution. It was a picture of a farming operation.

I'm asking you to help us, as an industry, with what you might be able to do as part of your forum of public policy to help the agriculture industry be recognized as a provider of food, not the cause of the starvation.

Ms. Suzanne Corbeil: May I perhaps, Mr. Shipley, just start this off briefly, and hand it off to Penny, and at the risk of being inappropriate, correct you on one issue?

I am perhaps the least-informed person at the table today. I brought forward the idea of the Science Media Centre to Canada about four years ago. Why did I do it? Exactly for the reason you said. I want to be an informed Canadian. There are too many complex issues out there for me to understand, and I don't know what stand to take on many things because I just don't get what biotech is, or what GMOs are, or whatever. That is why this became so important and such a passion for me, and why I've been working very hard for four years to see this succeed. We want to create those forums at the Science Media Centre to allow the more public side of this whole debate to be informed and accurate.

Everything that Penny talked about in terms of our services is all aligned to allow the experts, the informed people at this table, to be able to connect with a journalist—many of whom today are generalists and don't know much about science either—to bring those stories forward to avoid exactly what you say, laying at the feet of the farmers, or another party, the full responsibility of this.

Penny.

● (1240)

Ms. Penny Park: I think the advantage to an organization like ours is to really look at where people are focused at this moment. If that story is occurring, if those visuals are in front of the public right now, our intention is to slip the science in there and say, "Okay, everybody's looking at this issue. Now lets talk about it. Lets talk about it from all sorts of different angles, and take advantage of that wish to know at that moment."

Mr. Bev Shipley: I want to thank you. I hope I didn't get it wrong —

The Chair: Very briefly.

Mr. Bev Shipley: I'm just looking at how we can work together to help agriculture.

I think I'm out of time, am I?

The Chair: Pretty well, yes.

Mr. Bev Shipley: I'll let it go, and my colleague will pick it up in the next round.

Thank you.

The Chair: Thank you very much.

I have to leave in a few minutes, but before I turn it over to Mr. Bellavance, I have a question I'd like all of you to respond to—it's a yes or no.

My observation is that the production and distribution of food should never be about one thing; it should be about choice. It should never be all the biotech-side; it shouldn't be all the organic side. When I say "shouldn't", that's maybe the wrong word. For example, I'm not sure what the percentage of organic is today, but if the public came out countrywide and said, "There are 50% of us who are not going to buy anything unless it's organic"—or whatever their choice is—wouldn't you all agree, as farmers on the production side, that if there's a market demand for something and the price is there, the industry would adapt to whatever that level is?

Are there any comments on that?

Ms. Christie Young: Could I start?

The Chair: Certainly.

Ms. Christie Young: I think that touches on the issue of labelling. The public doesn't actually have the right at the moment to decide in the marketplace between genetically modified organisms and non-genetically modified organisms. That's why they pick organic—

The Chair: But on that, Ms. Young, to correct you, organic is labelled as organic, and if somebody wants that choice, that choice is there today. So I dispute that.

Ms. Christie Young: Yes. And as we've been talking about it, I think if people understood a little more about the implications of organic production systems, they would probably choose it. It has to do with the externalities that people don't see in the retail store. It has to do with water contamination, soil erosion, air contamination, and all of the other things that happen around agricultural systems, which they can't understand when they buy something.

The Chair: But would you agree or not agree that if the demand is there, for whichever side of the issue, the production side, meaning farmers—I was a farmer as well in my former life—will adapt to that.

That's really the question I'm asking.

Ms. Christie Young: Yes. Farmers tell me time and again, “Just tell me what I need to produce and how to do it and I'll do it.”

The Chair: Thank you.

Anyone else?

Mr. Jerome Konecsni: I would agree; I think they would.... From my experience working with organic producers, when we had our business in organic, for some it was a philosophy, a way of life, and for others it was simply a straight business choice: “I can make more money selling that, and I need to make a living.” They made that choice.

You have a whole collection of people who were growing products organically for a different array of reasons. I think if the money and the market demand is there, people will respond to whatever production system.

The Chair: Thank you.

I will ask Mr. Bellavance to take the chair, please.

Mr. Easter, five minutes.

Hon. Wayne Easter: Thanks, Chair.

And thanks, everyone, for the wide-ranging discussion.

Penny, when you talked about the Science Media Centre and what you do, I couldn't help but see Barry Wilson sitting there. I just can't imagine the media ever getting it wrong.

Voices: Oh, oh!

Hon. Wayne Easter: It might be a good idea to put a motion through this committee to set up a political media centre, so we could get it approved.

Voices: Oh, oh!

Hon. Wayne Easter: Anyway, Christie, early on in your statement—I didn't quite catch it all—you said we should take a precautionary approach. Could you expand on what you were talking about?

● (1245)

Ms. Christie Young: I think before the release of any new technologies we should understand the implications of those technologies.

I don't think we can ever actually know what will happen down the road. We have to balance the future implications of something we can't predict with what we want to get done today. I think the precautionary approach essentially suggests that we need to err on the side of precaution: don't jump into something if we haven't done enough studies.

That's not to say we should spend 50 years doing studies, but we should probably spend more than ten years doing studies on things that have lifetimes of replication and genetic modification potential. We need peer review trials. We need studies that come from other people than those who are developing the products.

Hon. Wayne Easter: We have several areas, and I think we're finding on the biotechnology tour that we have organic, non-GMO, and GMO. Should that precautionary principle apply to all areas?

Ms. Christie Young: Yes. A precautionary approach doesn't mean don't do anything. We have to ask, is this the avenue we should be going down, or should we be looking at other ways to reach the same ends that may have less serious implications, or may have implications that we can better estimate before we start down the path?

Hon. Wayne Easter: On research, you recommended funding appropriate research and extension. How do you think your area of research compares to non-organic and GMO? Do you feel that there isn't a proper balance? We have the organic centre in Truro, so there has been expansion in organic research. But is it enough to get us where we have to go? We're worried about the research cutback in the estimates, but where else does the Government of Canada have to go?

Ms. Christie Young: From what I understand, the biotech sector has been receiving an annual amount of $7 million for approximately the past 15 years. The first money that the organic sector has received in research dollars is recent, and that's a three-year amount of $2.6 million. So just as a starting point, there's a discrepancy.

I think we also need to look at our business risk management dollars. Income support payments and the business risk management money we have in our agricultural policy framework could be spent differently. The risk management association in the United States funds a lot of local-level, strategic agricultural research through their risk management dollars. To me, helping farmers farm better and become more resilient is probably one of the best risk management strategies we have.

Hon. Wayne Easter: I think that's an area where Frédéric is working.

We can't even get a handle on the numbers. We need to be able to get a handle on the numbers as a committee on what is being spent on research in total.

Mr. Konecsni, you talked about wheat and said that Canada is certainly behind Australia in production. Is it food wheat that we are talking about? Is it a result of genetically modified wheat in Australia that they're ahead of us? What's the reason why we're falling behind, according to you?

● (1250)

Mr. Jerome Konecsni: There are probably multiple reasons for that. I'm not aware of any GM wheat grown anywhere in the world... or there's been research on it. I think it has been the amount and the focus of the research that's been done in terms of traditional breeding, breeding programs, and investment in wheat. Public sector investment has not been focused on wheat. That's an area where you now see a lot of marshalling of effort and resources starting to happen in the public sector.

[*Translation*]

The Vice-Chair (Mr. André Bellavance): Mr. Lemieux, you have the floor.

[*English*]

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

I think the discussion we're having about biotechnology—and Christie had mentioned the precautionary principles that should be in place regarding biotechnology—is actually kind of what we are studying on this. We've had some witnesses come in front of committee who would just like to see a moratorium, certainly on GM, and perhaps even a wider swath of biotechnology. We've had others who have been strong advocates for it.

I think we're on the middle ground. We can't ban everything, and I don't think we want to. It's also not a free-for-all. We're somewhere in between, and part of this committee's work is to find out what processes we should put in place. When it comes to biotechnology, we went on a tour, as a committee, and we were briefed by a number of different organizations that there is a market approach type of process that somewhat limits just how far and wide biotechnology goes. And I think it ties into the numbers Jerome was talking about.

If you're going to develop a particular trait in a plant, it's in the $100 million to $150 million zone, and it takes somewhere in the 7-year to 15-year zone to come out at the far end of the process and actually have something that's marketable. As a result, research companies have to be focused on what it is they're doing, because they obviously want to remain in close communication with farmers, who are going to buy their product, because if the farmers aren't going to buy their product, what's the point of that investment and taking that risk?

However, there is also the other side, which is what I'll call the process and regulatory approach, which is what we're looking at.

Jerome, you had mentioned that from your point of view the biotechnology side of agriculture receives tremendous scrutiny. I wonder if you could elaborate on that, because it might address one of the concerns that Christie raised, which is that there might not be due oversight. I'm not suggesting there is enough or that there is too much. I'd just like your opinion, from what you've seen, based on the comment you made earlier.

Mr. Jerome Konecsni: People who have been involved in commercializing biotechnology.... And I had moved down the path of developing a plan and a business case for commercializing a genetically engineered oilseed that would produce fish oil, so I have an idea. The product was still a couple of years away from commercialization when I left the company. But the investment and the required scrutiny analysis—the number of toxicity and safety studies that were done—were incredible. And yet we were marketing organic products and the scrutiny wasn't the same.

I was talking to the communications director from CFIA at one point in time, and he said that there were more health issues and incidents that they encounter in organic production than there were in a conventional or a GM production system. You've seen the example of the California spinach that had E. coli contamination. The ability to store and to treat food products in an organic system is limited compared to a conventional system.

The other thing I learned, being in the organic business for 10 years, was that not all organic certification bodies are created equal. They're not the same, and it's the certifying body itself that should be scrutinized.

One of the benefits of the organic system, and one of the things we argued in our company, was that we had to develop an identity preserve system and a traceability system that enabled us to trace any product back to its source so we could demonstrate it was organically certifiable. That same system could be applicable to a GM system, to keep the containment and the control. And in fact it does, and it was a very good system and we made a significant investment in the company to do that traceability.

But to put a new dietary supplement on the market you didn't need to go through any sort of regulatory approval. All you had to do was just accept responsibility. If it caused harm to somebody, you'd be liable.

● (1255)

Mr. Pierre Lemieux: Let me just finish off my time here. I think I just have one minute.

We did a study on the future of farming and we were talking to young farmers. I would say that if I could crystallize the main concerns we heard from young farmers, the first were barriers to getting into farming, and there were a number of them. And the second main one was profitability. In order for them to choose this lifestyle and live this lifestyle, there has to be profitability so they can raise their families, and feed their own family from the labour of their hands.

I see biotechnology helping with profitability. When you look at the farming of 30 or 40 or 50 years ago, and the technological advances that have helped farming become more efficient, more effective, with better yields, lower losses, perhaps less use of pesticides, less use of fuel—fuel is a huge input cost—I see biotechnology being an enticement to younger-generation people who want to get into farming.

Christie, I'll put this question to you. How do you see biotechnology in terms of marketing agriculture to young people to show them that this is profitable? This is a resource they have that they can use. They don't have to use it, but it's there if they want it.

Ms. Christie Young: Again I think it depends on what technology you're talking about. I think the history of genetic modification has been tied to the purchase of other chemicals from the companies that have been selling the genetically modified seeds. That sets up farmers in a power imbalance.

I think farmers who are operating in the commodity system exist within a very consolidated and concentrated agricultural system and they don't have a lot of choice.

Mr. Pierre Lemieux: Don't they have choice? Can't they decide that yes, they'll go with that GM product or they won't?

[*Translation*]

The Vice-Chair (Mr. André Bellavance): Pierre, let her finish, because...

[*English*]

Ms. Christie Young: I think they can. I've talked to a lot of farmers who started using GM products and they've stopped, but then they're dealing with the recurrence of those crops, and that's what's led to increased used of herbicides, to deal with the volunteers who have come after they've used GM systems.

I think the question is understanding that you can approach agriculture in many different ways. The farmers we work with have a variety of different skills, and there's a different sweet spot for every scale where you use your equipment and your infrastructure most efficiently but you also have an economy of scope where you're integrating more than one or two types of cropping or livestock systems.

So the farmers we see entering the sector are trying to think of it differently because they don't want to be at the mercy of big corporations who are telling them what seeds to grow and how to feed their animals and what price they're going to get. They want to be more in control of the price they're getting. They want to be more in control of their operating costs and the costs they have to pay off farm to make those costs work.

I don't think our agricultural system that is dependent right now on chemicals and genetic engineering, or biotechnology, depending on how you want to define it, is profitable. We have $1 billion in income support payments and we have $1 billion out in debt servicing payments, not even paying down the capital. So we have a system that is based on debt. I don't think many farmers would say they're making a really good living as it stands; 60% of farmers in the sector are getting out of the business in the next 10 years. Eighty per cent are getting out of the business and 60% don't have people who want to take over their farms.

So I don't think the way we've set up agriculture right now is working for the farmers.

[*Translation*]

The Vice-Chair (Mr. André Bellavance): We are almost finished.

I will now go to Mr. Hoback for the last two minutes.

[*English*]

Mr. Randy Hoback: Thank you, Chair.

I'm going to continue with that. I disagree with you. When we listened to the young farmers who were coming into the sector they were very excited about it, and profitability was their main concern. They weren't going to do things the way dad or grandpa did it. They made that point very clearly. They were embracing technologies that weren't available five or ten years ago that were making them more efficient and making them able to do more things and generate more capital and more cash.

There's always a barrier to entry in any industry; it doesn't matter if it's agriculture or if you buy a car business or anything else, you've got a barrier of capital costs when you go to do it. We've already found that when you start putting in subsidization programs you just increase the barrier, you don't necessarily help the person you're trying to help.

So I take exception to what you're saying there, and I disagree with you. It will be—

Ms. Christie Young: I would agree with you that lots of young farmers are interested in getting into the sector and they don't want to do it the way their dads or their grandads did.

I'm trying to be specific about the technologies. A lot of technologies are helping farmers farm better and be more profitable and communicate with their consumers more and get a better price. Then there are technologies that put them into a system where they lose control. I think that's the difference. For the farmers who are analyzing what technologies they want to use, it's control and the ability to be a pricesetter and to control their input costs.

● (1300)

Mr. Randy Hoback: They don't lose control because they have the choice of selection. If they are in a system that they don't like with Cargill, for example, they don't use Cargill seed, they use Dow seed or somebody else's seed. They have the ability to select among many competitors.

Ms. Christie Young: They have the ability to choose between five companies.

Mr. Randy Hoback: That's pretty good.

Ms. Christie Young: And those companies also control the purchasing of the products that come out the other side.

Mr. Randy Hoback: That's not true.

Ms. Christie Young: I don't want to fight with you right now. I don't think we're fighting—

Mr. Randy Hoback: You're making a comment that's not true. On specific agriproducts, yes, but I can buy seed from Cargill that I could sell to ADM. No problem, I could do it tomorrow. Farmers can make choices at the farm gate that will allow them to go into the system. The reason they tie themselves into an IP system is that it's making them money.

[*Translation*]

The Vice-Chair (Mr. André Bellavance): Thank you very much, Mr. Hoback.

Ms. Young, I will give you the last word.

Ms. Christie Young: No, that's fine, thank you.

The Vice-Chair (Mr. André Bellavance): Fine.

In that case, my sincere thanks to our witnesses.

Yes?

[*English*]

Hon. Wayne Easter: This is not on this—

[*Translation*]

The Vice-Chair (Mr. André Bellavance): Are you raising a point of order?

[*English*]

Hon. Wayne Easter: Yes.

I've sat in this room now for three or four meetings. I've sat here and I've counted that 94 of those pot lights are on. What's going on here? Do we really need all these lights on in here? This is crazy. In the committee rooms around this town, what are we doing?

[*Translation*]

The Vice-Chair (Mr. André Bellavance): Okay. Order, please. The issue is a technical one that the committee will try to resolve with the help with the clerk.

I thank the witnesses and committee members. We will continue our work next Tuesday.

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