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Chair

Mr. Pat Finnigan

Standing Committee on Agriculture and Agri-Food

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● (1530)

[*Translation*]

The Chair (Mr. Pat Finnigan (Miramichi—Grand Lake, Lib.)): Good afternoon, everyone.

I would like to welcome you to the Standing Committee on Agriculture and Agri-Food.

[*English*]

Welcome, everyone.

Pursuant to Standing Order 108(2), we're studying the role of food inspection agencies in the context of free trade agreements.

Today we are certainly happy to have with us Mr. Jan Bloemendal—I hope I pronounced the name right—the European Commission's director-general for health and food safety, of course by video conference from Brussels, Belgium.

Welcome, Mr. Bloemendal.

We also welcome Mr. Hans Joostens, director-general, trade, also by video conference from Brussels, Belgium.

Can you gentlemen hear us okay?

Dr. Jan Bloemendal (Director General, Health and Food Safety, European Commission): Yes. It's very good.

Mr. Hans Joostens (Director General, Trade, European Commission): It's perfect.

The Chair: We certainly appreciate this. I think it's nine o'clock there now?

Dr. Jan Bloemendal: No, it's only 8:30 in the evening, so it's no problem at all.

The Chair: We certainly appreciate your staying later to accommodate us as a committee. We're certainly happy to have you. We generally start with an opening statement, so for whoever wants to go ahead, you have up to seven minutes to talk about how it works in your country.

Thank you.

Dr. Jan Bloemendal: Thank you very much. It's a pleasure to be here, honourable members of the House of Commons Standing Committee on Agriculture and Agri-food. Thank you for allowing us to present the EU food safety system to you. It's an honour for us.

My name is Jan Bloemendal. I'm indeed in the DG at the European Commission—the directorate-general for health and food safety—and my colleague Hans Joostens is in the DG for trade. We both are in areas focusing on international relations. We have an SPS background, so we will be happy to try to answer your questions afterwards, but we are not really experts in any particular area. We broadly cover the whole SPS field.

We are proud to present the food safety system to you. Thank you for asking us to do so.

We have a system that is applied throughout 28 member states and controlled in compliance with harmonized and uniform rules and procedures set by the European Commission and the authorities of the member states. There is in the EU one single system of rules and controls that applies throughout the whole EU.

We are really happy to be here now also in view of the provisional application of the Comprehensive Economic and Trade Agreement that entered provisionally into force in September last year, under which we will be further cementing the excellent relations already in place between Canada and the EU.

Can you hear me well? I'm not speaking too fast?

The Chair: We can hear you clearly. Thank you.

Dr. Jan Bloemendal: Indeed, the European Union and Canada are privileged partners. We have a long history in information exchange but also in trade. The EU as such, with a market of 500 million consumers, is a significant market for Canada.

The EU is the world's largest importer of agriculture and agrifood products. In 2016 we imported products worth 163 billion euros, 16% of the world's total agriculture and agrifood imports.

This provides reasonable opportunities for Canada. We are Canada's fourth-largest export market for agriculture and agrifood, with opportunities for further growth for your farming industries and your agriculture sectors. There is already important trade ongoing between the two parties. In 2016 Canada was our ninth top destination for agrifood. You are the 16th exporter/supplier of food to the EU, and there was already important trade ongoing before CETA entered into force.

We are both veterinarians. We are working in the SPS area, the sanitary and phytosanitary area, and we have as a basis there the WTO SPS agreement, which indeed forms the basis for our requirements. It applies to us in the EU, but also to our colleagues in Canada. This agreement has been in force since 1995. CETA again affirmed the obligations and the rights under the SPS agreement.

We already have had really good historical co-operation. There has been a veterinary agreement between Canada and the EU since 1999. That has been beneficial for both sides.

There are quite a number of areas in the SPS field for which we have recognized equivalence. This means that both sides' requirements allow for the same level of SPS protection, and the production of food should in that case be in accordance and compliance with the exporting country. If your industries export products to the EU in areas for which we have recognized equivalence, they only have to comply with Canadian rules and not the EU rules, because they provide the same level of protection. This is really beneficial for our industries. This concerns meats, but also bovine semen and fishery products.

Also, under the vet agreement, we apply a recognition of each other's regionalization decisions in times of disease outbreaks. In times of such outbreaks, we design certain areas for which restrictive measures apply. By recognizing these measures, we allow the continuation of trade from the free areas, which is again extremely beneficial for industries.

Under CETA we will be further building on those agreements and achievements, but now, with CETA, we have also included plant elements, phytosanitary elements, and also other food aspects. This is excellent timing, because the first meeting of the joint management committee on SPS will take place next week. We will be with you in Ottawa next week, where the meeting will be hosted by our counterpart, the Canadian Food Inspection Agency.

I hope I have some minutes left to give you a very short introduction to this food safety system. We had a major overhaul of our regulations early this century after significant food crises hit the EU in the 1990s, notably on BSE and dioxin. At that time, the EU adopted the “General Food Law”, by regulation 178/2022. That sets a number of basic principles that are reflected in all the food regulations established since the general food law.

I was really pleased to hear last year in Geneva that when Canada presented its “safe food for Canadians” regulations they had also been making use of the principles of our general food law, so we are helpful for both sides.

After these food crises in the 1990s, we were facing EU consumers who had lost confidence in the safety of EU food, but also in the industries producing this food and in the public authorities overseeing the food production. There was really a loss of trust among our consumers. With the general food law we set some basic principles, including the following ones.

● (1535)

We apply an integrated approach from farm to fork, from stable to table, animal origin or not, and we include all food, including animal feed. It means that food products have to be controlled and have to be safe throughout the production process. We do not believe in cleaning up the final product when it gets contaminated during the production process. It should be safe and controlled throughout the food production process at all stages.

Another important element is that food business operators are primarily responsible for the safety of their food. Food business operators must have a dedicated control system in place. We call them hazard plans. They need to know where contaminations may occur, and they have to control these. Further, they have to apply full traceability. They must have a system in place that makes it possible to follow food products throughout the production chain, backwards and forwards. If they are confronted with a contamination, they have to know where they got their raw products from, but they also have to inform their customers that there might be a problem with the products they have received. That is full traceability.

Another very important element is that SPS measures in the EU—measures in the sanitary and phytosanitary area—are fully science-based. To that end, we established the independent European Food Safety Authority back in 2002. EFSA produces risk assessments by making use of scientists all over the world and all the relevant scientific information that is available, and it conducts this work in full transparency. Any opinion is published, and it's known which scientists have contributed to the opinion and also which information has been used to be able to issue that opinion.

Further, risk management, the taking and enforcing of measures, lies with the European Commission together with the European Parliament and the authorities of the 28 member states. They are politically responsible and accountable.

Also, we've have recognized the precautionary principle, already established by the Montreal protocol at that time and by others, in order to prevent risks to the safety of consumers in case scientific evidence is lacking.

As well, a very important element also countries outside the EU is that products exported outside the EU at least have to meet the requirements applicable in the EU; they may not be of a lower standard. Every product produced in the EU and exported has to at least meet the requirements applicable in the EU.

Another huge achievement in the EU with our 28 countries is that we have one single open market, which allows free trade of goods, people, and services within but also between the 28 member states. All agriculture products are produced and controlled in accordance with harmonized rules set at the EU level, and the same standards apply in every EU member state. Also, national authorities are performing their controls in compliance with EU-established control rules. When a product leaves the member state and arrives at another member state, it's not again controlled; it is already meeting the EU requirements, and member states trust each other.

I have some words about the legislative process. I think it's particularly important and relevant for you.

The EU legislative process is based on two principal treaties, those being the Treaty on European Union and the Treaty on the Functioning of the European Union, as amended most recently by the Lisbon treaty.

These three treaties are binding agreements between member states and determine that secondary sources of law such as the general food law, but also the newly established official controls regulation as well as the newly established animal and plant health law, are directly applicable and enforceable in all member states, and that further transposition into national law is not a requirement. If we establish EU regulations in Brussels at the EU level, they are directly applicable in every single member state.

● (1540)

Our legislative procedures lay the initiative for new legislation or amendments to existing rules with the commission. Only the European Commission has the right of initiative. The adoption of legislation, however, takes place in coordination with the European Parliament and the Council of the EU, in which the ministers of the member states come together.

As a next step, we then have delegated and implementing acts that amend, supplement, or implement secondary legislation, which the commission can take themselves in cases of non-essential rules or after endorsement by the member states by voting via comitology procedure: for instance, in the case of the authorization of GMOs, but also if we would be allowing pathogen reduction treatments.

With respect to trade of agriculture products between the EU and Canada and the SPS measures that apply to these, it's good to emphasize that also with CETA both sides maintain their standard-setting rights. CETA is not forcing us to lower our food safety standards. That obviously applies to both sides of the ocean.

However, the information exchange that takes place under CETA —the regular meetings of experts and scientists and our future co-operation in international fora like the OIE and Codex Alimentarius —should make the agreement, CETA, an additional tool to overcome non-tariff measures there where possible.

Our system of one internal market also means that the EU applies one single set of import rules. All import requirements are set at the EU level, which means that any Canadian product that meets these rules undergoes only one import check and then may be freely traded throughout the 28 member states, so the internal market is also a major advantage for our trading partners and for your industries.

For the EU, the implementation of CETA is the opportune moment to apply a reciprocal system via vice versa, meaning that EU products that meet Canadian requirements should also be allowed into the Canadian market regardless of where they are produced. We are requesting Canada to refrain from authorizations at the member state level. Under CETA, it should no longer be acceptable that some parts of the EU would remain excluded from the advantages and benefits the agreement provides and delivers. A political agreement to this end was made some years ago with respect to meat and CETA articles foresee this in its imminent application, and also for phytosanitary products. Therefore, the EU has high expectations from CETA, and we look forward to our first meeting next week.

I hope this short presentation will gave you a bit of an overview into the EU food safety system and the way it is applied and controlled throughout 28 member states to the benefit of not only our own consumers but also the many consumers outside the EU, including those in Canada. Again, I cannot stress enough the excellent relations we already have with Canada in the SPS area with our long shared history and the eagerness with which we look forward to our upcoming work. On our side, we think that our corporations should be an example for other countries, too, and a proof of how mutual trust and co-operation may benefit both sides' consumers and industries.

Again, thank you very much for the attention. We are happy to try to address questions you may have.

● (1545)

The Chair: Thank you very much, Mr. Bloemendal. With respect to how we will function, we have all three parties from the House represented here, and there will be a series of questions. It's really more of an exchange of information.

We will start with the Conservative side.

Monsieur Luc Berthold, you have six minutes.

[*Translation*]

Mr. Luc Berthold (Mégantic—L'Érable, CPC): Thank you very much, Mr. Chair.

First of all, let me thank you for accepting the invitation to answer questions from Canadian parliamentarians. We greatly appreciate it, especially since the Canadian agriculture sector also has a lot of expectations regarding the free trade agreement that we signed with the European Union, or EU.

The possibility of having exchanges with you today shows that, in the future, our links will surely be strengthened, and we will have to work together because we hope that what we are going to produce here will be increasingly consumed throughout the European Union.

Here are the initial questions I wanted to ask you. I want to situate myself so that I can make a bit of a comparison with what is happening here in Canada.

The European Union is an integrated market with a large number of consumers, and the European Commission is responsible for legislation and enforcement. How does field inspection work? The borders of the European Union are still quite extensive. Who is responsible for inspecting food, deciding whether a food is acceptable and whether it meets standards or not?

[*English*]

Dr. Jan Bloemendal: Our member states have national authorities in place that control and oversee their food safety systems. They have to ensure that their controls are in compliance with agreements, with legislation, that we have made at the EU level.

With respect to imports of more sensitive products, such as veterinary products, they have to enter the EU via border inspection posts and are there controlled by inspectors at our borders. These border inspection posts are directly overseen by the European Commission.

Member states do have their own control authorities, control bodies, but within the commission, within DG Santé, we have a dedicated inspectorate that performs audits in the member states to check and evaluate whether they comply with our EU rules. These controls result in reports either with or not with recommendations, which recommendations have to be followed up by the national authorities. These reports, their recommendations, and the corrective actions that are put in place by the member states are published.

I have one more remark, and then maybe Hans wants to add something. What I said in my presentation is that the primary responsibility lies with the industry. The industry has to have internal control systems in place and have an analysis of critical control points, which our Canadian colleagues know very well. They have to do the first checks. They have to ensure that the food they produce is safe, and then there are the authorities at the national level and then at the EU level to oversee whether products meet our requirements.

● (1550)

[*Translation*]

Mr. Luc Berthold: Is there an accreditation process? How does it work?

We get a lot of questions from producers, especially from small producers. They tell us they have good products and want to export them to Europe. But we tell them regularly that it's too complicated and that it's very, very difficult to get products approved and to access the European market. People also lament the fact that the export costs are very high.

Is this a myth? Is access to the European market a complicated process that will have to be taken into account as a result of the new agreements we have just concluded?

This could perhaps guide your discussions next week.

[*English*]

Dr. Jan Bloemendal: This is a perception, which is always dependent on various.... I mean, we may have totally different views than people on the Canadian side do, obviously, and I think that's true for many areas. Therefore, it's extremely good and helpful that we meet often to inform each other about what the situation is and what the problems are, etc. and also to provide further information on how that should be and what we expect, etc.

In the EU, we ourselves feel that we actually have a very liberal and very clear input regime. We have one set of input rules that actually applies to the whole world. If any country outside the EU can meet these input requirements, it can access our markets. That is different from some other countries, which define their input rules according to the situation in the other country. Also, because of our union with 28 different countries, we have one single set, and if you are able to meet that, you can enter the European market.

Our input requirements are laid down in certificates that have to be issued and certified by the authorities of the exporting country. We do have high food safety standards in place, obviously, and you have to be able to meet them, but generally, I think, Canadian establishments and companies are very well capable of meeting our standards. They are not all the same, and that's obvious, but they are clear, and once you can meet them, you can trade.

The Chair: Thank you, Mr. Bloemendal.

Now we will change over, but before we go on, I want to remind everyone that we will need about five minutes to approve the budget from the last meeting. I'll save five minutes at the end, because we do have bells in the second hour.

[*Translation*]

Eva Nassif now has the floor for six minutes.

Mrs. Eva Nassif (Vimy, Lib.): Thank you, Mr. Chair.

I would also like to thank the witnesses for their presentation.

To what extent does the Canadian Food Inspection Agency work with other organizations? Does it communicate the information directly during free trade negotiations? Are there restrictions?

● (1555)

[*English*]

Mr. Hans Joostens: Can you repeat the question? It's not so clear.

[*Translation*]

Mrs. Eva Nassif: To what extent does the Canadian Food Inspection Agency work with representatives from Canada and the European Union to share information directly during free trade negotiations? I'm also asking if there are any restrictions. Can you tell us about it?

[*English*]

Dr. Jan Bloemendal: As I said, we already have a long-standing relationship, and I think a very good one, and we share a lot of information. I don't know all the information available on the Canadian side and whether they share everything with us, but our feeling is that Canada is a very trusted and very well-regarded trading partner and that both parties apply maximum openness and transparency. If there is something relevant and important for the other party in any case, that party is immediately informed.

I've already said some words about this, but this is really important. In the case of disease outbreaks, of course we have to safeguard the other party from becoming infected as well, so we immediately take measures to restrict the infected area, and we inform Canada in the first instance, immediately, so that Canada knows what is in the restricted area and that from that area it should not receive any further food, animal, or plant products or whatever. This information exchange works very well, and I think to the benefit of both parties. I'm not aware of any restrictions, actually.

Mr. Hans Joostens: Also, in the multilateral context—for example, the WTO—with Canada we have a very transparent exchange on fine-tuning positions or whatever, wherever needed. Where we have a common interest in the international arena, there is an open communication going on. In this particular area, it can only stimulate the trust and confidence in each other, because we depend so much on each other's systems for our trade purposes. This is working very well with Canada.

[*Translation*]

Mrs. Eva Nassif: To enter the European market, Canadian companies will have to meet its standards on safety, food additives and other elements. Some companies have already initiated changes to meet all EU regulations.

To export to the Canadian market, have European companies also made major changes to meet Canadian standards?

[*English*]

Dr. Jan Bloemendal: Yes, in order to export to Canada, we have to meet the Canadian requirements, obviously. In those cases, particularly in the microbiological area, for instance, microbiological contamination is an area of huge concern to Canada and also to the EU, but definitely to Canada. For instance, that's a field where we have to take extra measures, where our industries have to take extra measures, to be able to comply with the Canadian requirements and to be able to enter your markets.

It's what I said before: we are not at that stage yet—and we hope we can soon get there—where any EU country has access to Canada. In the current situation, there are still member states that do not have access at all for certain products. For us, that's very difficult to accept because, indeed, we have one single market and one single set of harmonized rules.

For us it's important that any EU member state has access, but then, of course, only after meeting Canadian standards. To that end, CFIA visits our countries and sees whether the industries and the authorities are indeed able to comply with Canada's requirements. If not, they issue recommendations, and these recommendations have to be followed up on.

Definitely our industry has to invest to be able to access Canada, but those who are happy to do so indeed should be able to do so.

● (1600)

[*Translation*]

Mrs. Eva Nassif: Mr. Joostens, would you like to add anything? No?

I have another question for you. Could you tell us about the main challenges facing the European agriculture industry in Canadian markets?

[*English*]

Mr. Hans Joostens: If I understand you, the question is, what is the major challenge for European industry to meet the Canadian market?

Mrs. Eva Nassif: Yes, exactly.

Mr. Hans Joostens: I think Jan formulated it well. For the sanitary and phytosanitary area, Canada does a country-by-country assessment before authorizing these countries or individual member states to enter their market. From our perspective, as Jan also explained, due to the fact that we have harmonized standards for which several member states can already export a particular commodity to the Canadian market, we expect that there would be trade-facilitating measures that would simplify the procedure, and in particular, now that CETA is operational, it also means that resource-wise we both can relook at this issue to simplify the best use of resources and to trust each other on how this can be facilitated.

The Chair: Thank you, Mr. Joostens.

[*Translation*]

Mrs. Eva Nassif: Thank you.

[*English*]

The Chair: Thank you, Madam Nassif. I have to go to the next questioner, Mr. MacGregor.

Mr. Alistair MacGregor (Cowichan—Malahat—Langford, NDP): Thank you, Mr. Chair.

Thank you to both of you for joining us today. We certainly very much appreciate it.

My first question is in terms of the EU and any specific concerns you've had with the production or inspection of food from trading partners. Specifically with regard to Canada, in the negotiations leading up to CETA and looking back over the last 10 years, say, were there specific concerns with how Canada's standards operate that caught your eye and were a major concern for you?

Dr. Jan Bloemendal: No, not really. I think CETA could be so ambitious in our area because there is such huge trust and there were also such good experiences from the past. We were able to conclude this ambitious SPS chapter because of the experiences and the history we have.

Of course, it's obvious that if one party conducts audits and verifies the other system it always finds points for improvement —"non-compliances", we call them—and we had them in Canada as well, but we were able to discuss them and Canada was able to put corrective actions in place. I think generally we communicate very well, and your industries and your authorities are very highly advanced, so they know exactly what our requirements are, and they are very trustworthy. If they satisfy that those requirements are met, we have a genuine trust that they are met.

Of course, some checks are still taking place for imports at a lower level, by the way, due to the agreements, but still, we have to do import controls. I cannot say that generally we have a systemic problem with Canadian imports—no, definitely not.

Mr. Alistair MacGregor: That's good to hear.

Some of the food products in the European Union are specific to certain geographic areas—I'm thinking of things like feta or Parmesan cheese—and only products made in those specific areas are allowed to carry a certain name. Is that requirement attached to Canadian products being exported to the EU? Are we not allowed to use certain names because the products come from a specific geographic region in the EU?

● (1605)

Dr. Jan Bloemendal: I'm sorry to say this, but this is not an SPS measure. I know that these geographical indicators are very important on the EU side, but I think the two of us are not.... I don't work in this area so I cannot say anything about it.

Hans, I don't know whether you can respond.

Mr. Hans Joostens: Yes, it's not our field of competence, but as you know, under the CETA we also talk about geographical indications, which are recognized under the agreement specifically for the EU and vice versa for Canada. Where there is an overlap of using the same name or branding, there is a modus under CETA that has been worked out whereby they can coexist beside each other in the market. There are modalities provided under the agreement in order that this trade can continue to take place under certain conditions, which are laid down there.

For these technical details, I cannot help you further, but there is something in the agreement.

Mr. Alistair MacGregor: I'll bring it back to a subject area that you're probably more comfortable with. It deals with the subject of food fraud. What measures or initiatives has the EU taken to combat food fraud? Are there any notable cases? We've had our issues—I think every country has—with food fraud, with food that is mislabelled and sold under a different guise. I'd like to hear some of your thoughts on that.

Dr. Jan Bloemendal: In the commission, there is a unit dedicated to investigating possible frauds and to act accordingly. What is extremely important in the case of food fraud is direct communication: directly informing each other in case there might be something wrong and some fraudulent actions might going on. The information exchanges have been improved. Also, the controls have been intensified, particularly the risk-based ones. There, where possible fraud might occur, controls have been intensified.

There is an intelligence unit ongoing that is trying to get to where fraudulent actions might occur, but the thing with fraud is that it is off the radar. The challenge is to get it on the radar as soon as possible. We have colleagues who are really dedicated in that area and are working in that field on a daily basis. That's more or less what we've done. A lot of it is about communication and informing each other immediately.

Mr. Alistair MacGregor: Thank you.

The Chair: Thank you, Mr. MacGregor and Mr. Bloemendal.

Mr. Longfield, you have six minutes.

Mr. Lloyd Longfield (Guelph, Lib.): Thanks, Mr. Chair, and thanks to both of you for staying up late to talk with the Canadians today.

I come from the riding of Guelph, which has an agriculture university and a veterinary college. We have research in the areas of GMOs. I heard you comment on GMOs during your presentation, but there might have been a shuffle of paper, because I wasn't able to pick up what you said about GMOs between Canada and EU.

Dr. Jan Bloemendal: What I said about GMOs is that once third countries submit applications for certain GMO events to get access to the EU, those applications first have to be evaluated—assessed—by the European Food Safety Authority, EFSA. Only once EFSA defines that the application is in accordance with our safety regulations does it go through the risk managers to the European Commission and the member states, and then the European Commission may make a proposal for accepting or approving the event. There is a comitology procedure, as we call it, and then the proposal is on the table and the member states, by a qualified majority, have to adopt the proposal in order to get it authorized.

Mr. Lloyd Longfield: Thank you. So there is a process that we need to align with through CFIA?

Dr. Jan Bloemendal: Exactly, and it goes well. Also, let me say that for GMOs there is a biotech dialogue already, one that has been ongoing for many years, between experts on your side and experts on our side, which will continue under CETA. It's in accordance with I think chapter 25 of CETA. It's a biotech dialogue where these things are being discussed in technical detail.

● (1610)

Mr. Lloyd Longfield: Okay. Thank you.

Early in the discussions, there were disputes around how our slaughterhouses wash carcasses. We have the Cattlemen's Association in Ottawa tonight. They might be interested—I'm definitely interested—to know what is the current state of the carcass washing and whether we've been able to align our processes with your requirements.

Dr. Jan Bloemendal: The carcass wash is another thing that may also be authorized in the same way as a GMO: after a risk assessment by EFSA and then a legislative procedure by the commission and the member states. At this point, there are two carcass washes allowed—authorized—with lactic acid for certain beef products and with recycled hot water for beef and pork products.

I don't think we apply—and it's very well known by our industry—carcass washing on such a broad scale as Canada does. It has very much to do with our culture and also our history. What I've said is that from farm to fork we have the idea that we must control food production throughout the production chain, and that throughout the production chain, food has to meet the safety requirements. Therefore, there is still a strong belief in the EU that carcass washes at the end are not needed because the product is already in accordance with our safety standard—

Mr. Lloyd Longfield: Okay.

Dr. Jan Bloemendal: —but indeed, meat from Canada imported to the EU has to be produced in accordance with our requirements also in this area.

Mr. Lloyd Longfield: Is there further work needed there? We're washing with chlorine. You're washing with acid. Is there something as legislators that we need to know about in terms of regulations?

Dr. Jan Bloemendal: This is a very short answer. As soon as you produce for the EU market, only those washes are allowed that are allowed in the EU.

Mr. Lloyd Longfield: Okay.

I have a bit of time left. I'm wondering about the traceability systems and whether you've looked at blockchain in the EU, whether blockchain has entered the agriculture markets yet. It's something that's very early in Canada that some people are talking about. Is the agricultural industry using blockchain at all?

Mr. Hans Joostens: According to my knowledge, no, and certainly not in new legislation. We see that in supermarkets they want to go and walk this route. I saw something in the media by the Carrefour supermarket that they are thinking about launching this process, but it's not generalized in the EU.

Mr. Lloyd Longfield: Okay. That sounds very similar to us.

Does your agency have any responsibility for marketing or market development? You've said that you have some commissioner-type services. Our agency at one point had marketing under them, but now they fall under the health portfolio and they don't work with marketing functions.

Mr. Hans Joostens: I think it's the same on our side. For marketing, it is mainly the member states that are doing this work.

Mr. Lloyd Longfield: Okay. Terrific.

We used a bit of extra time before, so I'm going to turn over the rest of my time to the chair.

Thank you very much, gentlemen.

The Chair: Thank you, Mr. Longfield.

[*Translation*]

Mr. Poissant, you have six minutes.

Mr. Jean-Claude Poissant (La Prairie, Lib.): Good afternoon.

Thank you for sharing your concerns.

Personally, I was a farmer for 40 years. I would like to know how often on-farm inspections, animal well-being checks, production audits and environmental protection audits are done.

[*English*]

Dr. Jan Bloemendal: Do you mean the animal welfare inspections?

Mr. Hans Joostens: Animal welfare, yes?

[*Translation*]

Mr. Jean-Claude Poissant: Yes, that's exactly what I meant to say.

[*English*]

Dr. Jan Bloemendal: There are inspections at several places. They are done in slaughterhouses, obviously. Also, during transport, trucks may be stopped by authorities and the contents may be checked as to whether the animals have enough possibilities to rest, enough access to water, and don't make journeys that are too long. We have regulations on that. We also have regulations on the way animals are kept at the farm level. Our authorities have the right to enter farms at any moment and check whether these welfare requirements are being met.

It's actually at several places in the production chain, but indeed, also in the slaughterhouses, which of course, is a very important moment. In functioning slaughterhouses, official veterinarians are continuously present which also have to oversee the welfare requirements.

● (1615)

Mr. Hans Joostens: Here, the same is valid for the broader SPS control. The supervision is also present here from the commission, so the other layer of control on how the member states correctly implement the EU legislation in this area of animal welfare is exactly the same.

[*Translation*]

Mr. Jean-Claude Poissant: Do you conduct inspections on farms?

Here, the provinces manage everything differently. In Quebec, for example, inspectors go to farms to check whether the environment is being respected during production or if the animals are properly maintained.

[*English*]

Dr. Jan Bloemendal: That happens in the EU as well. Inspectors may enter farms—pig farms, poultry farms, broilers—to see whether the welfare requirements are indeed being met. Yes, this happens in the EU too. Our authorities ought to do so. They are expected to take care of these controls.

Animal welfare is a very important and sensitive issue in the EU. It gets a lot of attention from NGOs, politicians, and consumers in general. Any issue of animal welfare immediately gets a lot of attention, with articles in the media, etc. Those things are wrong-doings that happen now and then, but have a lot of consequences, so animal welfare is a really important aspect of animal husbandry in the EU.

[*Translation*]

Mr. Jean-Claude Poissant: Thank you.

During the study of the Standing Committee on Agriculture and Agri-Food on the impact of the Comprehensive Economic Trade Agreement on Canada's agriculture and agri-food sector , the witnesses welcomed the intention to establish a dispute settlement process that would be faster than that of the World Trade Organization, or WTO.

Based on the information contained in the final text of the agreement, how long would the dispute settlement process take?

[*English*]

Mr. Hans Joostens: I don't know it by heart, but it's much shorter than the two or three years that it normally takes at WTO. This is much faster, yes, and it also applies to the SPS chapter. I don't know the exact timing here. I don't have it with me.

[*Translation*]

Mr. Jean-Claude Poissant: Okay.

What are the main ways that this dispute settlement process differs from that of the WTO?

[*English*]

Mr. Hans Joostens: Do you mean from the WTO or on the CETA?

[*Translation*]

Mr. Jean-Claude Poissant: I'm talking about what exists at the WTO.

What are the differences between the WTO's settlement process and the new process?

[*English*]

Mr. Hans Joostens: I don't have it here with me, but this is a bilateral dispute settlement. I don't have the details here with me.

[*Translation*]

Mr. Jean-Claude Poissant: Thank you.

The Chair: Mr. Barlow, you now have the floor for six minutes.

[*English*]

Mr. John Barlow (Foothills, CPC): Thank you very much, Mr. Chair. I'll be splitting my time with my colleague Mr. Dreeshen.

I want to echo my colleagues' sentiments in thanking you for taking the time out of your evening to explain some of the issues and participate with us in this process.

My colleague Mr. Longfield knows these things very well, as he also has a large meat-processing plant in his riding, as I do, and I just want to make sure that we're clear. They're not washing carcasses with chlorine. It's chlorinated water and citric acid and those kinds of things. I don't want our colleagues in the EU to think we're bathing our carcasses in chlorine before we send them over.

You spoke in your comments about there being one set of rules for the 28 countries in the EU and how if our products meet those rules, the benefit is that we're not having to meet 28 different sets of rules, which I think makes a lot of sense and is why the CETA is beneficial. However, a lot of our stakeholders, as Mr. Longfield touched on with the beef carcasses, who are having some difficulty with non-tariff trade barriers that have arisen, and I want to see if there is something that we are missing on our end.

The beef carcasses are one. The other—if you go by your logic on one set of rules—is that traditionally we send about 1.2 million to 1.3 million tonnes of durum wheat to Italy on an annual basis. That has now been cut in half, as they are now saying that Canadian durum wheat is not meeting their standards in Italy; a lot of that has to do with glyphosate.

I am wondering what the rules are when it comes to those types of issues, where it appears that we have met all of the CETA regulations and standards, yet one country, which we rely on a great deal when it comes to a specific product, is able to put up some non-tariff trade barriers to block products from Canada going into the EU. Is there something more we need to do on our end to address some of those issues?

● (1620)

Dr. Jan Bloemendal: I was not aware that you've already had costs and a decrease in trade of 50%. Is that what you were saying? I think the measure is still quite new, so I'm really surprised.

Mr. John Barlow: Yes.

Dr. Jan Bloemendal: Your authorities and the representatives of Canadian industries have done an excellent job. I mean, they immediately flagged our attention and their concerns. I think that in the EU we are working on this. In principle, we indeed have one set of import rules, but under certain circumstances member states have the mandate, the subsidiarity, to impose some extra requirements if they can justify them based on certain occasions, developments, some science, or whatever, but then that has to be scrutinized and evaluated at the EU level.

I think we are in that process now with Italy, so I think we don't have a very clear position on this at this moment. I think also I'm not allowed to say much more at this point. I mean, we know the problem, and we know your concerns. You've done an excellent job there—your representatives of the industry, of the wheat producers, and also your officials—and we are working on this on our side.

Mr. John Barlow: Would that be something that comes up at the SPS joint management committee meeting when that happens? Would that be an issue that you maybe would try to resolve at that level?

Dr. Jan Bloemendal: No. I think Canada has asked to have this tabled at the AGRI committee meeting, which is going to take place in April.

Mr. John Barlow: Okay.

Dr. Jan Bloemendal: It's not—

Mr. John Barlow: I'm sorry. I have one last question and then I'm going to pass this over to my colleague.

When we compare our systems in terms of the CFIA and the European Union, does the European Union send food inspectors to other foreign countries to inspect products before they are shipped to the EU?

Dr. Jan Bloemendal: No. We call that a pre-clearance, and the CETA is saying that we should not apply pre-clearance between our two parties, so we don't do that. We don't inspect consignments at the exporting territory to see whether they can maybe trade it to the EU. What we do is audits. We send inspectors from our inspectorate to all countries around the world, also in the EU and Canada, to apply system audits to see whether your system still does what it should do, but not at establishments or at the product level. We don't apply that.

Mr. John Barlow: Thank you.

Mr. Earl Dreeshen (Red Deer—Mountain View, CPC): Once again, just to add to what Mr. Barlow was talking about on the durum wheat and the glyphosate, you have said that Italy took on a concept where they're saying that they want to justify this with respect to science. I'm just wondering whether, when things like that are proven to be not true and not correct, there is a provision for damages to be given back to the aggrieved party.

● (1625)

Dr. Jan Bloemendal: I'm sorry. I cannot speak about that. It's not really an SPS thing. It's indeed also on the AGRI committee. We are working on it at a high level on the EU side, so I think I'm not allowed to say anything about it at this point.

Mr. Earl Dreeshen: I guess the other—

The Chair: Mr. Dreeshen, we're already past the time.

Mr. Earl Dreeshen: I know that Canada has some great HACCP plans and traceability and that type of thing. It's good to hear that the EU also has HACCP plans. Hopefully, they are working together, which of course makes it so much easier for us to be able to work together.

Thank you very much.

The Chair: Thank you, Mr. Dreeshen.

This concludes our session. I certainly want to again thank both of you for being here. It was a very interesting conversation. I think that when we talk and dialogue, that's how we're going to ensure that both Canada and the EU will have a long-term relationship for the benefit of both of us.

Again, thank you so much for being with us this afternoon. Have a good day.

Mr. Hans Joostens: Thank you very much.

Dr. Jan Bloemendal: It was an honour. Have a good meeting. Thank you.

The Chair: We will suspend the meeting right now and resume in camera.

[*Proceedings continue in camera*]

● _____ (Pause) _____

●

[*Public proceedings resume*]

● (1630)

The Chair: Welcome back to our study on the advancements of technology and research in the agriculture industry that can support Canadian exports.

With us for these 45 minutes or so, we have, from the Department of Agriculture and Agri-Food, Mr. Tom Rosser, assistant deputy minister, strategic policy branch.

Welcome, Mr. Rosser.

We also have with us Mr. Brian T. Gray, Assistant Deputy Minister, Science and Technology Branch.

Mr. Gray, welcome again.

We also have with us Mr. Marco Valicenti, Director General, Sector Development and Analysis Directorate, Market and Industry Service Branch.

Welcome, Mr. Valicenti.

Mr. Rosser, I think you're going to do the opening statement. You have seven minutes.

● (1635)

Mr. Tom Rosser (Assistant Deputy Minister, Strategic Policy Branch, Department of Agriculture and Agri-Food): Thank you very much, Mr. Chair. On my behalf and that of my colleagues, I want to thank you and the committee for the opportunity to be here this afternoon to talk to you a bit about what we see as some of the more exciting technological developments in the agricultural and agrifood industries in the years ahead. I also want to speak with the committee about how we as a department and the government as a whole try to be a partner in accelerating the innovation process within the sector.

Advancements in technology and research go hand in hand with innovation. Combined, they breed the solutions necessary to increase productivity, sustainability, and growth in the sector, and they help our producers and processors capture new opportunities in the global marketplace. When it comes to science, AAFC uses an approach based on partnerships, working with industry, universities and colleges, and others to provide the science that enhances the sector's resiliency, fosters new areas of opportunity, and supports sector competitiveness. Partnerships and collaboration leverage federal research investments and bring together necessary capacities across institutions to help focus research on areas of benefit and importance to the sector.

As no doubt many of you will be aware, in budget 2017 the Government of Canada announced an ambitious target to grow Canada's agriculture and agrifood exports to $75 billion. Advancements in technology and research, particularly those transformative in nature, such as artificial intelligence, the bioeconomy, and the latest in breeding technologies, will be critical in helping to increase Canada's agrifood exports to meet this new target.

[*Translation*]

Agriculture is increasingly critical to Canada's economic growth and well-being, and people are noticing. Last year, we hit a new record of $62 billion in agriculture and food exports. That's up 80% over the past decade. Those exports added over $10 billion to our national balance of trade. We're one of the top five agricultural exporters in the world and on a per capita basis, we're the world's largest agricultural trader.

Driving this growth has been an impressive pace of scientific advancement. The strengths of Canada's agriculture sector are its trusted food supply, resource availability, arable land position, and strong research clusters.

[*English*]

In the coming decades we'll see an enormous increase in the demand for safe, nutritious, and high-quality food, with the global population expected to reach a little over 9.5 billion people by the middle of this century from a current base of a little over 7 billion today. Global demand for food is expected to increase by about 60% in the decades ahead, meaning that the world will need to produce in the next 40 years or so an amount of food equivalent to what humanity produced in the preceding 10,000. Promoting advancements in technology and research will ensure that our producers and processors are well-positioned to meet this demand and to grow our presence in the global marketplace in a sustainable way.

Earlier in the week, MinisterMacAulay announced the clean technology program, a $25-million three-year investment that will help agriculture reduce greenhouse gas emissions through the development and adoption of clean technologies. This investment will help Canadian farmers stay on the cutting edge of clean technology by targeting developments in bioproducts and precision agriculture. Our government has made both agriculture and clean technology a priority for growth in our economy. This new program will contribute to Canada's place as a world leader in agricultural clean technology, helping farmers to develop new and efficient uses of energy while also protecting our environmental resources and mitigating climate change.

Transformative technology holds tremendous promise in the agriculture and agrifood sector. AAFC scientists and policy-makers are working in this space. Continued focus on these areas will help to add value to Canada's agricultural sector and have already made impacts on our producers' and processors' ability to meet the $75-billion target.

Innovative technologies are consistently being developed and used across the sector, but there are barriers that continue to inhibit them from attaining their full potential. These barriers include the overall cost of investment, insufficient infrastructure, undeveloped supply chains, and a lack of training or professionals to work through the complexities of adoption, among others.

Ultimately, adoption takes place when those innovations are judged to be worthwhile investments in the respective operation. The adoption of transformative technologies and products is what drives innovation and is key to the sector's continued productivity growth and increased competitiveness.

[*Translation*]

Biotechnology involves the manipulation of living organisms, or their parts, to produce useful products, such as medicines and pest resistant or herbicide-tolerant crops.

New plant breeding technologies have been developed in recent decades that enhance our understanding of plant and animal genetics, and can be used to address environmental, social and economic goals. The science community worldwide increasingly depends on advanced biotechnologies to understand genes responsible for traits such as high yields, disease and insect resistance and quality, to help meet the world's growing demand for food.

In 2016, Canada ranked fourth in the world for total area planted with biotech crops. In 2015, the cumulative economic benefit of biotech crops to farm income in Canada was $1.2 billion. CropLife Canada, an organization representing plant science companies that make plant biotechnology for agriculture use, estimates about 71% of Canada's trade balance in crops is the result of innovations in GM plant and crop protection products.

AAFC has projects that explore gene editing techniques in crops, including advanced genetic technologies for yield improvements and herbicide tolerance of camelina and canola.

It is also looking at controlling fire blight and scab in Canadian apple orchards through management strategies and genetic resistance.

● (1640)

[*English*]

Like biotechnology, the area of agricultural machinery is constantly changing, adapting, and advancing in ways that allow the sector to respond to emerging challenges and opportunities.

Disruptive technologies have found their way into agriculture. These technologies include things such as precision agriculture, artificial intelligence, and blockchain technology and can enable a wide range of activities. Approximately half of Canadian farms have implemented some form of innovation on their farm in the past three years.

Precision agriculture can be broadly defined as a management strategy that uses a wide range of technologies to guide targeted actions. In essence, it tries to take the intuition and guesswork out of farming by allowing producers to harness the power of big data. For example, new precision farming technologies are helping farmers reduce pesticide and fertilizer usage. Farmers are checking their animals from their smartphones and mapping their fields with the power of big data. They're making decisions about harvesting their crops based on satellite imagery.

Technological advancement has also helped Canadian beef producers reduce greenhouse gas emissions significantly. The uptake has already contributed to Canada's ability to be a major player on the global agriculture stage.

AAFC also has significant capacity in precision agriculture. My colleague Dr. Gray is better placed than I to speak in detail about this, but we're working with the industry in experimenting with the use of drones, for example, for precision management of irrigation and sustainable precision livestock farming.

Precision agriculture relies on big data and, of course, humans have a finite capacity to analyze and process data, so we're also excited about the possibilities of applications of artificial intelligence in the agricultural sector. Artificial intelligence combines problem-solving and decision-making to achieve goals that typically rely on some combination of data, software, sensors, the Internet, and cellular networks.

Systems powered by AI are able to perform tasks that normally require human intelligence. In the context of agriculture and food production, AI helps achieve the overarching goals of precision agriculture by analyzing data collected on farm and converting it into information that can be used by farmers to help make better farm management decisions.

● (1645)

Within AAFC, and in the agriculture and agrifood sector more generally, there's increased interest and excitement about blockchain technology. Blockchain can benefit the agriculture and agrifood sector in offering several advantages over traditional methods of transacting, including enhanced transparency, improved traceability, and increased efficiency. Blockchain is a digital database that securely transmits any type of information without a central authority. Recognizing its benefits, the agriculture sector is examining its application to help in the management of supply chains by improving security and traceability.

The bioeconomy is well positioned to boost exports from Canada's agriculture and agrifood sectors. Bioproducts from agricultural crops, residues, and wastes are already helping farmers find new uses for waste products and enter new markets. In 2015 the revenue from non-conventional industrial bioproducts in Canada was estimated at $4.27 million. This helps power the transition to the low-carbon economy, boosts the farmer's bottom line, and helps the sector mitigate climate change. Advancements in research and development and the commercialization of new technologies are needed for the agriculture-based bioeconomy to continue growing.

The Chair: Mr. Rosser, I'm sorry to interrupt, but we're going to be pressed for time. We will have to leave because there's a bell at around 5:15, I think,so if you can conclude...? Everybody has received your presentation and can consult it.

Mr. Tom Rosser: Have they?

The Chair: We want to make sure that we have some questions. Everybody is agreed, so could you conclude? Then we'll go to questions.

Mr. Tom Rosser: Okay, Mr. Chair. Perhaps I'll conclude there and thank the members for their attention. My colleagues and I are happy to answer any questions you may have.

The Chair: Okay, and we'll certainly go through the rest of your presentation.

We'll start the questions.

[*Translation*]

Mr. Berthold, you have six minutes.

Mr. Luc Berthold: Thank you, Mr. Chair.

Good afternoon. I would like to thank the witnesses for being with us. It's a pleasure to see you.

I have two main questions for you.

On Monday, we had a four-hour meeting on grain transportation. The great crisis affecting us has become recurrent. If we do nothing, we can invent all kinds of stories, the crisis can happen again. You mentioned a number of times the objective of increasing Canadian exports to $75 billion. However, it's impossible without transportation. We won't be able to achieve this goal.

Does your department plan to develop policies to help us deal with this crisis?

Mr. Tom Rosser: Thank you for the question.

Yes, we are very concerned, in the department and in the government, about some of the problems we have seen recently in the grain sector's rail transportation system. Fortunately, we have seen in recent weeks some data that shows an improvement in the performance of the system. There is currently a bill under consideration in the Senate that we think is going to give rise to a more balanced and effective system in the long term.

In the grain sector, we see variations from year to year. Usually, the increase is 2% to 2.5% per year. Thanks to technology and investments in technology, the harvest is growing year by year. Infrastructure investments must be made to ensure that the system can grow at the same pace as the harvest. Budget 2017 included a $2 billion program to invest in our transportation system for export. We are waiting for our colleagues in the Department of Transport to announce the projects that will be funded. The first series of funded projects will be announced in the coming weeks.

Mr. Luc Berthold: Okay.

I will turn the floor over to Mr. Barlow.

[*English*]

Mr. John Barlow: Thank you very much.

I was glad to see in your comments that you're talking about innovation technology and the things that farmers have done. I think that farmers today are amongst the best conservationists and the best stewards of the land. That was probably not always the case. I certainly remember as a kid that we weren't on the cutting edge as much as we are today. To use an example, this past summer we had record low rainfall in southern Alberta, but we didn't have any catastrophic crop failures, because of modern technology, conservation, and tillage. Our soil health over the last four years has improved profoundly because of the practices that are now being put in place.

However, when you talk about the $75-billion target, certainly the feeling we're getting from our stakeholders is that we are eliminating a lot of the tools they have to try to achieve those goals. My colleague talked about transportation, but the other ones would be modern fertilizers, pesticides, and precision agriculture. A lot of those things are being removed because of what does not look to be be science-based research and decision-making practices, a lot of it at the PMRA, for sure, and maybe not Agriculture Canada. I would encourage discussions between the two on decisions that are being made at the PMRA. Are there conversations between Agriculture Canada and PMRA on the implications of that?

I want to quickly read into the record a letter that was signed by several ministers at the G7, including our Minister Champagne, who was obviously there for our agriculture minister. It says:

> In order to face the challenge of producing more food in a safer and sustainable way, farmers must be able to access the full range of tools and technologies available for agricultural production. Yet, our farmers' choice of safe foods is increasingly undermined by regulatory barriers that lack a sufficient scientific justification, and this is having substantial negative impact on the production of, and trade in, safe food and agricultural products.

This was signed by our minister. Has that message been shared through a whole-of-government approach? I'd like your response on that.

● (1650)

Mr. Tom Rosser: Mr. Chair, I'll respond briefly. I think my colleague Dr. Gray can address our relationship with PMRA.

The member is quite correct. There was of course some drought in southern Alberta. In fact, as I understand it, precipitation levels on the prairies this past summer were comparable to those experienced in years of severe drought in the late 1980s. The fact that we had the third-largest grain harvest on record speaks to decades of success in innovation and in more drought-resistant breeds of grain.

On regulation, I'd say a couple things. One is that budget 2018 announced that the government would be undertaking a review of regulation to make sure it doesn't inhibit innovation and that agriculture and agrifood would be one of the first sectors on which the focus would be placed. Exactly what the scope of that will be I think remains to be seen, but there will be an opportunity to consult with the industry, understand what their priorities are, what regulatory barriers they see, and have a look to see if we can't improve the efficiency of those processes and ensure they don't inadvertently undermine innovation.

With respect to PMRA, we do in fact have a partnership, the intent of which is to try to enable the availability of products that can help improve the competitiveness of the industry in Canada. It's part of Brian's—

The Chair: Thank you. I'm going to have to end it here.

We have Mr. Longfield for six minutes.

Thank you, Mr. Barlow.

Mr. Lloyd Longfield: Thanks, Mr. Chair. There's so much to say and so little time, especially with this file.

Thank you for the very detailed briefing as we're starting a new study here.

I was talking with a company out of Tavistock, Ontario, that's doing precision agriculture machine manufacturing. They're going from one data point per acre up to 350 data points. They're looking at the composition of the soil, gamma radiation, and passive decay and giving that information to big data to do some analysis work. I sit on the industry committee, and sometimes I feel like that's another committee's discussion, but as we're looking at the $75-billion target, how much of that target is for precision agriculture machine development? We have a great machine manufacturing business network across Canada. Is that part of the $75 billion that we should be studying?

Mr. Tom Rosser: The $75-billion target, I think, is itself derived from food exports. Of course, one of the benefits of growing our agrifood exports is that we strengthen the upstream and downstream value chain, so that by becoming a technological leader not only do we export more food products, but we create export opportunities for new technologies.

Mr. Lloyd Longfield: Yes. When we're looking at that, I'm trying to get my head around the $75-billion target and how detailed we have gotten by types of products, let's say, such as grains versus meats versus.... How granular is that target? When we set up our study and are calling for witnesses, do we know where the bulk of the growth needs to be? Do we have a detailed plan on that?

Mr. Tom Rosser: I think the short answer is no. The longer answer is that we know what the historic growth patterns have been and what the relative contribution of different commodity groups is to current exports. Some industry groups themselves—I believe canola and others—have said, “Here's the contribution we think we can make.” There is also the economic strategy table that flows out of budget 2017, which has been looking at this and formulating advice on how to attain the $75-billion target and may have further insight on that, but no, as a department we haven't said that we need so much from beef, so much from pork, and so much from grains and oilseeds.

● (1655)

Mr. Lloyd Longfield: Okay.

We just spoke with a couple of witnesses from the EU about the food inspection agency in Europe versus Canada's, and some of the processes in Europe versus Canada. I asked a question about blockchain. They gave us much the same answer that I'm hearing in Canada, which is that it's still pretty new and they're not quite sure about traceability. I'm very interested in seeing the opportunity, especially for young farmers who are looking for new technologies to adopt. It's interesting that you have it in this section here: where would you see us on that continuum? Is it something that we should really pay attention to? Or is it something for the industry committee?

Mr. Tom Rosser: I think blockchain has applications across the economy, but we are quite excited about the potential in agriculture. I think we're in the very early days of realizing that, but I know there is involvement with soybeans and other products. In fact, I know that the University of Guelph has been involved in some early projects.

Mr. Lloyd Longfield: Yes.

Mr. Tom Rosser: It's something that we see having very significant potential. It's certainly not unique to agriculture, but we see it being very important in agriculture.

Marco, do you have anything to add?

Mr. Marco Valicenti (Director General, Sector Development and Analysis Directorate, Market and Industry Services Branch, Department of Agriculture and Agri-Food): I was going to give you the same example with soybeans to China. In the context of blockchain, certainly retailers are using it through the supply chain as a means in the context of traceability. We are seeing that with some of our competitors as well. I think we're moving certainly in the direction of engaging that technology within the full value chain.

Mr. Lloyd Longfield: Thank you, Mr. Valicenti. That's where I heard the comments: from the soy sector in Guelph in talking about China. There are specific countries where we have some specific opportunities and some new trade agreements.

I heard the EU today, and I said to myself that it doesn't sound like it's a big GMO opportunity, but maybe Japan is. Do we have opportunities by region as we develop out something that we might want to study—blockchain in China, let's say—to ask if that's something if we're tying in with China or Japan...? As we develop our witness list, I'd like to see us talking to some of our potential customers.

Mr. Tom Rosser: Again, Marco may have something to add, but in addition to China, Japan is the other market where often products can command a high premium if they're certified. Blockchain offers a potential to do that much more efficiently, credibly, and securely than traditional technologies. Of course, it being one of the CPTPP economies, it's one where I think a closer look at that opportunity may well be warranted.

Mr. Lloyd Longfield: GMOs are another one that I'm thinking has to be on our radar, and Guelph has a lot of development in that area. Again, in trying to align our study with the opportunities that are out there, in the last few seconds we have, is there another opportunity out there that we should make sure we don't forget?

Dr. Brian Gray (Assistant Deputy Minister, Science and Technology Branch, Department of Agriculture and Agri-Food): On the GMOs, the last time I was here we talked a bit about that. Definitely, on the genetic engineering side of GMOs, we're doing a lot of research in that area, as is industry.

Getting back to the other point from Mr. Barlow about pesticides and the right use, even if we develop the perfect pesticide that is matched with a resistant crop that we have used genetic engineering on to make resistant, eventually the threat to that will evolve and you'll have to develop a new molecule. We're never going to have a silver bullet on anything, so we'll always need genetic engineering. We'll need to match that with whatever the pest is.

The Chair: Thank you, Mr. Gray, and thank you, Mr. Longfield.

Mr. MacGregor, you have six minutes.

Mr. Alistair MacGregor: Thank you, Chair.

I thank each of you for being here today and giving us some of the department's perspectives on these issues.

In other committee studies, the organic farming sector has repeatedly pointed out that the federal government invests less in their sector than in other agricultural sectors, and very much in the research and development part of it. There's some amazing literature coming out these days about lowering the inputs into farms using different planting techniques, whereby plants are working in harmony with each other, creating different microclimates and so on and so forth.

How much funding has the federal government invested in research and development for the organic farming sector? Is there interest in that in the years ahead?

● (1700)

Mr. Tom Rosser: I'll just say that we certainly do have a robust partnership with the organics industry, but I can't speak to precise figures. Perhaps my colleagues can, but if not, we can certainly get back to you with a more quantitative answer. It is an industry where we see there being some growth opportunities.

Marco or Brian, do you have anything?

Dr. Brian Gray: Again, we can get back with the numbers, but I'd say that it's fairly proportionate to what is out there now as far as the industry goes, and we've been robust and we are growing with it. Off the top of my mind, out of our 20 research and development centres, I'm aware that we're doing organic farming research on three of them.

One is the Harrington farm, which is associated with our Charlottetown, P.E.I. centre. We have a plot there—I don't know how many acres it is, but it's a substantive plot—that is now organic certified, so we can now do organic research in the field.

Where we don't have that—an example would be at the Harrow research and development centre—we have greenhouse systems, where we're developing organic varieties of soybeans, for example. For that, you need to have soil, so it's an odd-looking greenhouse. You go in and there's soil, rather than elevated things. We're doing that there.

Swift Current is a big one where we're doing a fair bit. We have two scientists dedicated to organic research. Pulses are one of the growing areas. Southwest Saskatchewan is an area that seems to have quite a bit of acreage in organics.

Mr. Alistair MacGregor: Earlier this week I had a phone conversation with Glyn Chancey, who's with the Canadian Seed Growers' Association. We were talking about seed technology and genome mapping. He really underlined that because Canada has such a high dependence on export markets, it really needs to take the lead on this issue. I think he cited France and Portugal, as two countries that are really forward-looking in this particular issue and are really seizing the opportunities. He was concerned that because we're so reliant on export markets we might be losing out on that.

I'm wondering if your department has looked at what France and Portugal are doing. Is there any comparison you're doing of that with what Canada is doing? Do you maybe have some designs to implement those kinds of policies?

Mr. Tom Rosser: The short answer from me would be no, it's not. Although we certainly have a relationship with the seed growers, it's not a perspective that they've shared with me before. Maybe Brian or Marco—

Dr. Brian Gray: I'm sorry. I don't completely understand your question.

Mr. Alistair MacGregor: He said that when it comes to looking at non-GMO breeding techniques, increasing the diversity of our seed supply, and looking at different types of species, we could be developing really strong seeds in looking to the future, because we're so reliant on export markets. He cited that France and Portugal are really taking the lead on that. What is Canada doing to take care of those future opportunities?

Dr. Brian Gray: Of course, I have a bias, but I certainly think that Canada fights above its weight in developing seed varieties. I think we're one of the leaders in the world, certainly proportionate to our size.

One of the biggest areas in our research and development branch is developing varieties. It's an area of public good, and if industry is not in that space, we are developing the varieties—for example, in wheat right now—and those varieties are very successful. That's why we're having record yields in the prairies, for example. Most of those varieties of wheat or barley are varieties that we've developed at Agriculture and Agri-Food Canada.

It's the same thing with potato development. We're developing varieties of potatoes that Canadian growers are growing and exporting.

Mr. Alistair MacGregor: As a final question, it looks as though between 2010 and 2016 Canadian public investment in research and development trended downward. Between 2010 and 2016, I think Canadian public spending was on average 1%, which is lower than the 1.2% recorded between 2003 and 2009. What explains this decrease? Are there going to be steps taken to reverse that trend?

● (1705)

Mr. Tom Rosser: I don't have in front of me the data to which the member refers, but I would note two things. One is that we did see in budgets 2016 and 2017—and also in budget 2018—significant investments in public sector research, some of it directed at our department. Brian could speak to the details of that.

The other thing to bear in mind when you're looking at public sector research investments as a share of the agriculture sector is that we've seen unprecedented growth over the 2010 to 2016 period. Even with increased public sector investments as a share of the industry, they may have declined just because we've seen very rapid growth in the sector over that period of time.

The Chair: Thank you, Mr. Rosser and Mr. MacGregor.

Now we'll go to Mr. Peschisolido for six minutes.

Mr. Joe Peschisolido (Steveston—Richmond East, Lib.): Thank you, Mr. Gray, Mr. Rosser, and Mr. Valicenti.

I'd like to echo the comments of my colleague Mr. Longfield. It was an amazing presentation and a great point of departure not only for our study that's coming up but moving forward in the medium and long term.

Mr. Rosser, you talked about artificial intelligence and blockchain. These are concepts that most folks don't equate with anything much, but particularly in relation to agriculture. Can you expand a bit on the practical applications of artificial intelligence and blockchain to the agricultural sector? You've talked about smartphones and how those are dealing with efficiencies on the farm. Can you elaborate on that?

Mr. Tom Rosser: I might invite my colleague Dr. Gray, who may be better placed than I to comment. To my layman's way of understanding it, modern combines can generate huge amounts of data, as can satellites and drone technology, to the point where it becomes difficult for a human to process them all.

Artificial intelligence can help process those huge streams of data to help target applications of fertilizer and other applications. On the decisions that producers typically have to make, often on gut feel, often on intuition, they can harness big data, and rather than having to process mind-boggling amounts of data themselves, artificial intelligence can help the decision-making process. That's how I think of it.

Dr. Brian Gray: If I can add—

Mr. Joe Peschisolido: Please.

Dr. Brian Gray: —to pick up on Mr. Longfield's point about your friend going from one data point to 350, these are 350 different variables that are being measured simultaneously. Artificial intelligence is also known as “machine learning”, and instead of humans programming algorithms that then go out and look, these are algorithms that can go out and learn and build their own algorithms.

AI will see patterns that we are not possibly able to see. It will come back, and if those patterns are something that register, it keeps learning and building. Human beings cannot possibly pick up the patterns of 350 data points simultaneously—if it were two, three, or four, then maybe. The exciting part of AI is the ability of these systems to discover patterns that we never thought of and things that just would not ever be intuitive to you.

Mr. Joe Peschisolido: Okay.

Dr. Brian Gray: That's the exciting side. It has applications right across the value chain in agriculture.

Mr. Joe Peschisolido: Mr. Gray, in the past few months, I've been trying to wrap my head around blockchain technology. My understanding is that it's basically a ledger that is very secure, which allows folks access to it independent of existing institutions, independent of financial companies, government, and whatnot. Elaborate on how blockchain technology can be be used at the farm.

Dr. Brian Gray: It sounds as though you know more about it than I do. I can't help you on the blockchain. It's not something within my area of expertise.

Mr. Tom Rosser: The member's description of it is very consistent with my understanding of how it works.

Mr. Joe Peschisolido: All right.

Actually, Mr. Rosser, there are two other things that I was intrigued about and that you didn't get a chance to get into in your presentation. Perhaps you can talk a bit about the Canadian agricultural partnership, as well as economic strategy tables. We have the raw information here, but maybe you can just tweak it out and talk about the main points of what you believe is really important.

● (1710)

Mr. Tom Rosser: Mr. Chair, I promise that I'll be as brief as I can.

The agricultural partnership is a five-year framework between the federal government and the provincial and territorial governments. The current framework expires at the end of this month, in a couple of days. It will be replaced by the partnership, which we have negotiated with the provinces and territories over the past year and a half or so.

In terms of support for innovation, marketing, other things, it maintains many of the elements of the preceding partnership, but we have made some important adjustments to the way the risk management features work. We put greater emphasis on the environment and climate change.

Chair, I referenced in my remarks the $25-million clean technology partnership, which, strictly speaking, is outside of the partnership. Nonetheless, it's something that we plan to deliver in tandem with provinces. We also put greater emphasis on inclusion in reaching out to indigenous peoples, women, young people, and other under-represented groups in agriculture. Lastly, we are hoping to promote greater collaboration amongst provinces and territories in this framework than was possible under the one that preceded it.

On the strategy tables, budget 2017 created a series of six strategy tables, one focused on agriculture and agrifood. It brings together industry leaders from across the agriculture and agrifood industries. In essence, it's mandated to advise on how to best remove barriers to growing the sector and and attaining the $75-billion target. The group has been working for several months now. We are anticipating an interim report from them, I believe over the course of the summer, which is their target date, if I'm not mistaken.

Go ahead, Marco.

Mr. Marco Valicenti: If I may, I'll just add that the table is actually looking at five themes. Innovation is one of them.

They're looking at questions regarding adoption of various technologies and at seeing what are some of the catalysts out there for industry, academia, and the federal government to get the collaboration. Are there some barriers? Certainly, looking at some of the other sectors, such as advanced manufacturing, say, are there technologies in advanced manufacturing that are actually going to be used in finding alternative uses within the ag world?

Those are some of the questions that they're asking themselves. As my colleague mentioned, they will be coming up with an interim report later this summer.

The Chair: Thank you, Mr. Valicenti and Mr. Peschisolido.

We shall continue until the bell rings.

[*Translation*]

Mr. Breton, you have six minutes.

Mr. Pierre Breton (Shefford, Lib.): Thank you, Mr. Chair.

I would like to thank the representatives from the department for being here today.

In recent weeks and months, several witnesses have told us that it is important for the government to invest in research and development. You talked about it in your presentation, too. It's one of the things that will make us stand out, right here in Canada and on the world scene. It will enable us to achieve the targeted volume of exports, grow our economy and support our farmers.

Can you tell us a bit about what is planned in this respect? How do you intend to ensure that this plan is understood by all Canadians?

Mr. Tom Rosser: I will begin answering your question, and my colleague Mr. Gray may give you more information.

Mr. Pierre Breton: That is fine.

Mr. Tom Rosser: We have planned funding for innovation and science in the public sector. Significant investments in agricultural research were included in the 2016 and 2017 budgets.

In connection with the partnership we have just discussed, we are also funding a series of partnership clusters between universities, the private sector and public sector researchers, and these partnership clusters exist in different sectors based on different commodities.

The department has been engaged in research for decades, and continues to be. We have seen an increase in resources dedicated to agricultural research. We have a long history of partnership with industries and universities, and we believe there is an opportunity to deepen some of those partnerships.

Mr. Gray, do you have anything to add?

[*English*]

Dr. Brian Gray: As Tom mentioned, budget 2016 dedicated $30 million for biovigilance. That's something we talked about at the last committee meeting.

Budget 2017 mentioned $70 million. In the near future, our minister will be announcing what the government has decided to do with that.

For the Canadian ag partnership that was mentioned, Mr. MacGregor mentioned this apparent loss of funding for R and D. If you compare the Growing Forward 2 budget and the Canadian ag partnership, we're in the same good shape. I think GF2 is very well funded for research and development, and it's the same with the Canadian ag partnership.

One thing that hasn't been mentioned yet, which some of us are very excited about, is the supercluster. Within the supercluster, there's $150 million that's dedicated toward the protein industries Canada supercluster that's based out of Saskatoon but has partners across the country. To the earlier point about the breakthrough in getting $75 billion, I see that as a huge opportunity for us because, yes, we'll have to improve our productivity in the field, but this will actually improve our ability to process foods.

With protein innovations, they're looking at fractionating. You take a grain or a pulse and fractionate it into different things—100% protein, carbohydrates, lignins, or fats—and using each of those fractionations in a new product.

● (1715)

The Chair: Mr. Gray, we're going to have to adjourn.

[*Translation*]

Mr. Pierre Breton: Thank you.

[*English*]

The Chair: Thank you so much.

The bells are ringing, so we'll adjourn our meeting.