HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Agriculture and Agri-Food

AGRI • NUMBER 048 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Thursday, March 9, 2017

Chair

Mr. Pat Finnigan

Standing Committee on Agriculture and Agri-Food

Thursday, March 9, 2017

● (1105)

[*English*]

The Chair (Mr. Pat Finnigan (Miramichi—Grand Lake, Lib.)): I call the meeting to order.

Bienvenue, tout le monde. Welcome, everyone, to the Standing Committee on Agriculture and Agri-Food. Pursuant to Standing Order 108(2), we are continuing our study of the PMRA decision concerning the neonicotinoid insecticide imidacloprid.

I want to welcome the members. I think Mr. Shields is replacing Mr. Anderson. Welcome, Mr. Shields.

Also Mr. Maguire should be joining us shortly.

I want to thank the panel for being here with us today. We have Mr. Craig Hunter with the Ontario Fruit and Vegetable Growers' Association. From the Ontario Greenhouse Vegetable Growers, we have Ms. Justine Taylor, science and government relations manager. From the David Suzuki Foundation, we have Lisa Gue, senior researcher and analyst, science and policy unit, Ottawa. From Équiterre, we have Annie Bérubé, director of government relations.

Welcome, all of you. I understand we have 10 minutes per team.

Mr. Hunter, you will make your opening statement first, for up to 10 minutes. Thank you.

Mr. Craig Hunter (Expert Advisor, Pesticides, Ontario Fruit and Vegetable Growers' Association): Chairman Finnigan, Co-Chair Brosseau, and members of the committee, thank you very much for this opportunity today.

After almost 30 years with the Ontario Ministry of Agriculture, 18 years working for the Ontario Fruit and Vegetable Growers' Association dealing with pesticide issues, and more than 20 years as a member of the Ontario Pesticides Advisory Committee, I'm here today to share my experiences with pesticides. I'm here to represent the 2,500 fruit and vegetable growers across Ontario and more than 10,000 across Canada.

Growers are Canada's prime environmentalists. They live on the land, not in city apartments. They raise their families there and drink the water from the wells on their land. They no-till their land. They plant grass waterways and buffer strips. They do not want to spoil that land. They, in fact, want to pass it along in better condition to their children, for the next generation. They know what their environment is because they live in it every day.

Growers of fruits and vegetable crops across Ontario and Canada have been using imidacloprid since 1995, starting first with an emergency use on potatoes when every other registered insecticide had failed due to pest resistance.

Over the next 20 years, growers came to rely on this chemistry for a wide array of crops and for many insect species. In fact, an emergency use was just granted this past fall, a few weeks before the PMRA decision came out, and this was to control a new invasive species called brown marmorated stink bug, which can attack over 200 crops. I've seen it destroy 100% of an apple crop and a peach crop in Pennsylvania, which is pretty close to Ontario, so I know how devastating this insect can be.

If all the currently labelled uses are lost, it will be an enormous task to register effective and suitable alternative chemistries for the over 200 crops and multiple insect species that it controls. Although there are currently some registered alternatives for many of these pests, imidacloprid is the product of choice. As a result, a single application of imidacloprid may need to be replaced with three or even four applications of other products. You lose one, and then you have three or four alternatives each time you have to control pests.

Most of the other registered products have shortcomings that effectively preclude their use in commercial production systems. Even after 22 seasons of use, resistance to imidacloprid has not been an issue here. Many of the alternatives, on the other hand, need to be broad-spectrum products in a pesticide rotation program to prevent the pests from developing resistance. Imidacloprid has done this very well to date.

Since all horticulture is considered minor use, the pressure on Agriculture Canada's minor use program could be way beyond current capacity. None of our horticultural crops attract the research investment needed to register pesticides directly from the registrants. That's why we have the program. Even worse, many other products still face re-evaluation. Until they are reapproved, nobody wants to invest in their future, only to face double jeopardy.

I have many other comments on what I feel about the review, how it was done, the lack of time for meaningful input into the process, the lack of time to conduct new research to question some of the conclusions made by the PMRA, and their undue haste to publish a final decision by December of this year, nine months after our final comments are in. That's a full 12 months earlier than most of the re-evaluations over the past several years.

We have great concern that the 2015-2016 monitoring data, which was not included in making their decision, shows very different—in fact, lower—residue numbers in those same locations. This has not been taken into account.

Mesocosm studies that were rejected by the PMRA for various reasons need to be looked at again. What we call the weight of evidence shows up to 25 times less toxicity in the real environment as compared to pristine studies done in a laboratory. Perhaps a whole new look at the data used to condemn imidacloprid is warranted.

I also have concern that just last week Environment Canada announced they will not be conducting any further monitoring in these locations, even though they've expressed concern. This needs further consideration as well.

Just to close, bird counts done at Point Pelee have shown an increase in birds, and especially in fish feeders, and fishing quotas in Lake Erie have been rising. The fishing industry, in fact, has shifted down to the west end of the lake, so if there was really a problem, these would be the indicators, in my mind. This tells me a different story from the one portrayed by the PMRA in their proposal. Maybe if there is time later, I could add to the discussion.

I'll turn it over to Justine.

● (1110)

Ms. Justine Taylor (Science and Government Relations Manager, Ontario Greenhouse Vegetable Growers): Thanks, Craig.

Thank you again for this opportunity to present to you today.

We represent over 200 greenhouse vegetable growers across the province, responsible for nearly 2,900 acres of greenhouse tomatoes, peppers, and cucumbers. The greenhouse vegetable sector is one of the fastest-growing parts of Ontario agriculture. With over $820 million in farm gate sales, a contribution of over 12,000 jobs to the workforce, and a consistent track record of growth, the sector is a valuable contributor to Ontario's economy. In fact, in 2015 alone our farmers contributed an estimated $1.4 billion to the Ontario economy.

I would like to add some additional comments from the perspective of Ontario's greenhouse growers. Let me start by saying that our members, like most farmers, endeavour to be stewards of the land and strive to minimize their environmental impacts. lmidaclo-prid is used for the control of aphids and whiteflies in the greenhouse, and is only registered to be used once a season. Even then it is used sparingly and in alignment with biological control agents.

Biological control agents are beneficial insects that are introduced to the greenhouse to control unwanted pests and greatly reduce the need for pesticides. Results from a recent Canadian Horticulture Council survey indicated that 76% of respondents use imidacloprid as a tool to control outbreaks when other methods have failed. This product, like many neonics, when needed, plays a vital role in controlling unwanted pests as part of an integrated pest management, or IPM, program. A successful IPM program relies on a number of tools, including biological controls, cultural practices, monitoring, and, when appropriate, responsible chemical use.

It is clear that the increase in global trade and the impacts of a changing climate will increase our exposure to invasive pests and diseases. Therefore, it is critical to ensure the appropriate tools are available to combat these new pressures. In the greenhouse environment, the potential for pesticides to escape into the environment is mitigated through the same measures put in place to address phosphorus reduction targets under the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health. Currently over 90% of Ontario's greenhouse vegetable sector uses recirculation, whereby excess feedwater is captured and treated before being returned to the crop. In addition, the greenhouse sector, in collaboration with the provincial government, has developed a set of tools to address any feedwater that must be removed from the greenhouse environment.

Lastly, Ontario's greenhouse farmers have been looking, and continue to look, for new products that support an effective IPM program. The last few years have seen growers transition towards products that are softer on biocontrols. We expect this trend will continue, and to this end a promising new product has been identified through the minor use pesticides program that may further offset imidacloprid use. This project was selected as a joint Canada-United States minor use project.

The importance of a harmonized review process cannot be overstated, as it ensures a level playing field with our largest trading partner to the south. It is our belief that given the relatively low availability of viable alternative products, the potential for the development of resistance, and the need to remain competitive with the U.S., the removal of imidacloprid as a tool for pest management would be ill-advised.

We thank you for your time and look forward to your questions

The Chair: Thank you very much, Ms. Taylor.

Now we'll move to the David Suzuki Foundation and Ms. Lisa Gue.

Ms. Lisa Gue (Senior Researcher and Analyst, Science and Policy Unit, Ottawa, David Suzuki Foundation): Thank you, Mr. Chair. I appreciate the opportunity to appear today before you.

The David Suzuki Foundation is a registered Canadian charity, founded in 1990. The foundation believes we must protect biodiversity and Canadians' right to live in a healthy environment. These twin imperatives drive our long-standing work to strengthen pesticide regulation in Canada.

I've asked my colleague from Équiterre to join me this morning, as our two organizations collaborate closely in our work on pesticides.

I will review the ecological concerns that lead us to call for a ban on neonicotinoid insecticides, and then Annie will speak briefly to the PMRA's decision-making process and the issue of alternatives to neonics.

First let me state for the record that the David Suzuki Foundation and Équiterre agree with the PMRA's conclusion that imidacloprid poses unacceptable risks to the environment and should be phased out of use in Canada. In our view, the PMRA assessment underestimates the risks to terrestrial organisms and human health. Better addressing these aspects would only reinforce the conclusion that the continued use of imidacloprid is not sustainable. We therefore encourage Health Canada to cancel the main uses of imidacloprid, as proposed, and shorten the phase-out period. The proposed decision offers no justification for delaying action for three to five years, and this delay will needlessly prolong identified environmental risks.

Just a few months before the PMRA issued its proposed decision on imidacloprid, France adopted legislation to ban all neonicotinoids by September 2018. We recommend that Canada match the French timeline.

The evidence of harm from neonics demands urgent action.

The Task Force on Systemic Pesticides, a group of 29 independent scientists convened by the International Union for Conservation of Nature, has conducted the most comprehensive systematic review to date of the environmental impacts of neonics. The study analyzed more than 1,000 published scientific studies, and it concluded that the large-scale prophylactic use of neonics is having significant unintended ecological consequences. This ground-breaking review pointed to evidence of harm to aquatic and terrestrial invertebrates, pollinator insects, and birds, and to cascading effects that threaten whole ecosystems.

The task force published its findings in January 2015 in the peer-reviewed journal *Environmental Science and Pollution Research*. This publication in fact foreshadowed the PMRA's more recent conclusions, stating, and I quote:

> The combination of persistence...and solubility in water has led to large scale contamination of, and the potential for accumulation in, soils and sediments, ground and surface water and treated and non-treated vegetation.

As you heard on Tuesday, the PMRA's assessment confirms that concentrations of imidacloprid in aquatic environments in Canada may pose acute and chronic risks to invertebrates when considering both modelled environmental concentrations and available monitoring data. Aquatic insects are a crucial link in the food chain in marine and freshwater environments. The PMRA notes that modelled concentrations are typically considered to be higher than actual environmental concentrations, but in the case of imidacloprid, the modelled estimates cannot be assumed to be conservative because actual monitoring data overlap with the range of surface water concentrations predicted in the models. Morever, it is generally accepted that monitoring data likely underestimate actual exposure, as sampling typically does not capture peak concentrations.

With respect to bees, which I gather will be the focus for the next panel today, the task force review found clear evidence that neonics pose a serious risk of harm, including sublethal effects on navigation, learning, foraging, longevity, resistance to disease, and reproduction. A separate review of post-2013 studies that has just been published confirmed these findings, and I will provide the committee with a copy of that paper.

The PMRA re-evaluation of imidacloprid does not consider risks to pollinators, which are being assessed separately. Nevertheless, phasing out imidacloprid will dramatically reduce pollinators' exposure to this chemical. We view this as a significant side benefit of the proposed decision, not least because of the importance of pollination to agriculture and food security.

The task force assessment also found evidence of harm to earthworms and other terrestrial invertebrates, and aquatic invertebrates. It also found the potential for population-level harm to birds exposed to neonic-treated seeds.

The registrants' claim on Tuesday that Canada's decision on imidacloprid has been made in haste is nothing short of fantastical. North American regulators have been slow to respond to the evidence of ecological risks, with the first tentative regulatory restrictions in Ontario taking effect only last year.

● (1115)

As you know, the European Union has prohibited the use of neonics on flowering crops since 2013. This policy is currently under review and may be extended to cover other uses. Italy banned neonic seed treatments in 2008 and, as I mentioned previously, France will ban all neonics starting next year. By joining leading jurisdictions at last in the shift away from neonics, Canada can be at the forefront of a movement towards mainstreaming more sustainable agricultural practices.

Before I conclude, I would like to draw the committee's attention to a report on the effects of pesticides on the right to food, which was tabled on Tuesday by the United Nations special rapporteur on the right to food. The report describes our current dependence on pesticides as a global human rights concern and notes:

> The pesticide industry’s efforts to influence policymakers and regulators have obstructed reforms and paralysed global pesticide restrictions globally.

The special rapporteur is calling for a new global treaty to regulate and phase out the use of dangerous pesticides in farming, including neonics, and move towards sustainable agricultural practices. We believe Canada could and should be a leader in this transition.

● (1120)

[*Translation*]

Ms. Annie Bérubé (Director, Government Relations, Équiterre): Good morning. Thank you for the opportunity to share some of our ideas on sustainable agriculture in Canada.

Equiterre is an environmental advocacy group that has been active since 1993 and has offices in Montreal, Quebec City, and Ottawa. Its mission is to put forward concrete solutions to speed up the transition to a society where citizens, organizations, and governments make ecologically and socially fair choices.

Today, we would like to reiterate our support for the Minister of Health's recommendation to eliminate the use of imidacloprid in agriculture. We would add, however, that the risks associated with the pesticide are so harmful that it should be eliminated more quickly than the proposed time time frame.

Of concern to us is the importance of preserving the credibility of the pesticide re-evaluation process undertaken by PMRA scientists, as well as the independence of the Minister of Health's decision on this matter. The decision cannot be subject to any interference. Every stakeholder, including Equiterre, had a chance to submit comments during the consultation period. Why, then, give a public platform to a limited few stakeholders who have a clear commercial interest in the continued sale of the product in Canada?

We therefore urge the committee to expand the scope of the study to include the product's impact on ecosystems and human health, as my colleague Ms. Gue mentioned. Furthermore, the committee should take into account the knowledge and expertise currently available in Canada underlying alternatives to the agricultural use of imidacloprid.

We also have some concerns over the lack of transparency around the PMRA decision-making process. There is room for improvement in that regard.

In our view, it is especially crucial that PMRA demonstrate how its decision-making process takes into account independent scientific research, recent data such as the findings of academic researchers, and the data from provincial environmental protection agencies and Health Canada.

We are troubled, as well, by PMRA's dependence on how studies are conducted and taken into consideration. There is no way for researchers or the public to access data provided by manufacturers.

It is urgent that alternatives to the agricultural use of imidacloprid and other neonicotinoids in Canada be considered. On Tuesday, we learned that Agriculture and Agri-Food Canada had set up working groups to support the phase-out of the use of imidacloprid by farmers in Canada.

The work and recommendations of those working groups should be transparent. The groups should include agricultural stakeholders who have already implemented monitoring methods to prevent insect and pest infestations, as well as effective integrated pest management practices to prevent the unnecessary use of neonicotinoids. It is essential that the working groups not limit their efforts to the commercialization of other synthetic pesticides as the only solution.

Moreover, the working groups responsible for identifying alternatives must include stakeholders from Canada's organic farming sector who already grow corn, soybeans, potatoes, and a variety of other crops without the use of imidacloprid. The integrity of organic farming is threatened by environmental neonicotinoid contamination, which means the sector has an important part to play in the discussions.

I would like to quickly draw your attention to a few studies that raise doubts about the efficacy of many neonicotinoid uses in relation to farm yields and pest control. Take, for example, the field research—

The Chair: Kindly wrap it up, Ms. Bérubé.

[*English*]

Ms. Annie Bérubé: I have a good punchline coming in one minute.

The Chair: Let's go for it.

Ms. Annie Bérubé: There have been many studies that have shown the inefficacy of certain uses of neonicotinoids in Canada. A lot of this research is coming out of Quebec, and I have a lot of those studies here that I would be happy to share with the committee.

[*Translation*]

Further to its agricultural crop health strategy, Quebec developed very effective tools to prevent the unnecessary use of neonicotinoids in Canada, including crop rotation, intercropping, and sound fertilizer and irrigation management.

In conclusion, I encourage the committee to consider, perhaps as part of a future study, the important issue of alternatives to the agricultural use of synthetic pesticides in Canada.

Thank you.

The Chair: Thank you, Ms. Bérubé.

We will now begin the question and answer portion of the meeting.

Mr. Gourde, you have six minutes.

Mr. Jacques Gourde (Lévis—Lotbinière, CPC): Thank you, Mr. Chair.

I'd like to thank the witnesses for being here this morning.

I'm going to start with a question about something you said at the end of your presentation, Ms. Bérubé.

Do you also have research on how those Quebec farms fared in terms of performance and productivity, research that would support the possibility of doing without these pesticides?

● (1125)

Ms. Annie Bérubé: Yes. I would refer the committee to the studies done by Quebec's Centre de recherche sur les grains, notably Dr. Labrie's research. I have all the studies here. Researchers at the centre focused mainly on farm yields and the efficacy of neonicotinoid-treated soybean seeds in keeping pests away. They found no significant difference between treated and untreated soybean seeds. Further to that research, Quebec's pesticide strategy for 2015-18 sets out financial incentives for Quebec farmers for the purchase of non-neonicotinoid-treated seeds.

The results are similar for corn. No significant difference in yields was noted with the use of neonicotinoids to keep insects and pests away from corn crops. The United States Environmental Protection Agency has also done relevant research.

Mr. Jacques Gourde: Are you able to submit all of those studies to the committee?

Ms. Annie Bérubé: Certainly.

Mr. Jacques Gourde: Very good.

Eliminating products already registered in Canada would set quite a precedent. Are there other products that could also be eliminated? How will the industry adapt quickly enough?

Ms. Annie Bérubé: We believe the solution merits a broader and more informed discussion. We have to move away from the very narrow paradigm we have now. Under that model, any time an agricultural pesticide is restricted or eliminated, the only solution is to replace it with another synthetic pesticide. That reflects a very narrow view of farm management, when we know integrated pest management methods exist. Monitoring, prevention, crop rotation, and the use of natural predators, for example, are all just as effective as synthetic pesticides.

That is what we encourage the committee to pursue. It is Agriculture and Agri-Food Canada's responsibility to support Canadian farmers early on in the decision-making process so that they are not caught off guard whenever they have to restrict the use of a pesticide in their production.

Mr. Jacques Gourde: Are farms with more sustainable practices in place comparable in size to other farms in Canada? Are they smaller or fairly similar?

Ms. Annie Bérubé: I can only comment on the situation in Quebec.

The studies I will be providing to the committee on efficacy examine multi-hectare farms, and farms with corn, soybean and potato productions. Those crops perform better because of a sustainable approach to the management of pest infestations.

Mr. Jacques Gourde: I am mainly interested in whether the approach works for farms between a thousand and three thousand acres, or just those with 100 or 150 acres. Farmers who adopt more sustainable practices have to do more weeding. They have to do it more often, and they have the time to do it. Larger, commercial-sized farms, however, operate under stricter time frame and temperature requirements. In Canada, or in Quebec, farmers have very narrow windows for seeding, weeding, and irrigation.

Some farmers opt for the application of products so they can cover the area in a single pass because they have such a large acreage to cover. Farmers with smaller or medium-sized operations have the flexibility to go over the field more often.

Does the research examine small and medium-sized farms or large ones?

Ms. Annie Bérubé: I would have to check the exact number of hectares in order to answer your question.

I encourage the committee to invite Dr. Labrie, who did the research in Quebec. She could discuss the results of her field trials in Quebec in greater detail.

Mr. Jacques Gourde: Very well.

In that case, can Mr. Hunter answer the question?

Do you think farms with medium-sized and large acreages would have trouble using other growing methods?

[*English*]

Mr. Craig Hunter: The Ontario potato industry has 35,000 acres, and there are about 200 growers of the main crop. The average size of a farm is hundreds of acres. When we lost all effective pesticides to control the Colorado potato beetle leading up to 1995, all we had left to control them were propane burners that went down the field hot enough to burn the feet off the beetles so they couldn't walk, and giant vacuum cleaners that went down the rows. The cost of the propane for the burners was very high, and the cost of running vacuums up and down the field twice a day is prohibitive.

In effect, we had nothing effective that worked.

● (1130)

[*Translation*]

Mr. Jacques Gourde: How much time do I have left?

The Chair: Thirty seconds. I'll give you a minute because we are losing time.

Mr. Jacques Gourde: Okay.

This question is for anyone who wishes to answer.

Do you think our neighbours to the south will have a competitive advantage over Canada in the near future?

[*English*]

Mr. Craig Hunter: That's absolutely correct, because when the PMRA bans the use of a product for reasons other than residues in food, they don't do anything about the MRLs. Every other country in the world that continues to use this—like the giant who lives south of us—will continue to use it, continue to have a cost of production advantage over us, and will be able to flood our market with cheaper product.

Our growers, if they lose the use of this product on a number of crops, will face crop loss in yield and in quality and may not be able to continue to grow the crop profitably. They might grow it, but not profitably. That's the position they will be put into.

The Chair: Thank you, Mr. Hunter.

[*Translation*]

Thank you, Mr. Gourde.

Mr. Drouin, you have six minutes.

Mr. Francis Drouin (Glengarry—Prescott—Russell, Lib.): Thank you, Mr. Chair.

I said this last time, but it bears repeating: the committee operates independently. We do not report to either the minister or the government. We report to Parliament. The committee controls its own business. We can do as we wish. We can undertake the studies we want to.

Ms. Bérubé, did you feel that the committee did not invite certain stakeholders? You are before the committee today, after all.

I did not turn down any proposed witnesses. I'm trying to understand where you are coming from.

Ms. Annie Bérubé: Indeed, I do think that a number of stakeholders could make a significant contribution to your study. I mentioned some of them, including organic farmers who successfully grow field crops without pesticides. Other farming sectors in Canada have also implemented integrated pest management tools, without having to use neonicotinoids. To my mind, those are the experts who should really be at the table with the committee. I also encourage you to invite academic researchers. I mentioned a few of the ones who have published studies and field trials that raise doubts about the efficacy of neonicotinoids.

Mr. Francis Drouin: Very well.

As I see it, my job as a parliamentarian is to find a balance between the impact of the product being banned and the cost to consumers. The reality is that organic products cost consumers more. In supermarkets today, organic products are more expensive than non-organic ones.

Yes, it's laudable to ban something harmful, but it's important to have a reasonable transition period, for consumers and farmers alike. That is our job.

[*English*]

Mr. Hunter, tomorrow you wake up in a non-neonics world. What happens to your industry? What pesticides do you have recourse to, or what practices would you engage in tomorrow in a non-neonics world?

Mr. Craig Hunter: Our farmers would be faced with having to use pesticides that are prone to develop resistance, and so they couldn't rely on them for very long unless they had a broad-spectrum material to alternate with them, because neonics control several different species. The new products tend to be very narrow: they control this one really well, and this one not very well, and those ones not at all. If you have that spectrum of insects, you'd actually end up having to use one, two, three, even four different modes of action. You'd use different chemistries every time you went to treat your crop, so you'd increase—

Mr. Francis Drouin: You'd end up applying more pesticides.

Mr. Craig Hunter: Absolutely it would be more, and it might not be as effective anyway, but the big concern would be that we would be facing slowly diminishing effectiveness as we select resistant populations. For a farmer, the threat of resistance is a huge problem.

● (1135)

Mr. Francis Drouin: Can you explain to me some of the containment practices that happen in greenhouses? Maybe Ms. Taylor wants to jump in. How do you contain...?

Part of the issue is we found—I'm not going to try to pronounce it—neonics in the watershed. In a greenhouse setting, I'm dumbfounded at how that could happen, unless there's no containment issue. Can you explain to me what the industry does in terms of containment?

Ms. Justine Taylor: Yes. I think it's important to realize that there's been a transition in technology as greenhouses have become more sophisticated. As I mentioned in my opening comments, about 90% of our growers recirculate. The process of recirculation means that nutrients in water are delivered to the crop through drip irrigation, which is then captured in a trough, and then that trough is directed to a central location. The water is then treated and recirculated back to the crop, and that happens indefinitely. That's the current state of the industry.

If there becomes a point in time when that material can no longer be recirculated to the crops—if the salts build up, for instance, which tends to be the main reason—then we have developed with our provincial government a tool kit that gives you several options on how to dispose of that material.

Do you want me to go more in depth?

Mr. Francis Drouin: No, that's okay.

This would be applied to everybody. In terms of the PMRA process—and I'm asking the question to all of you—have you had enough time to submit your documentation to PMRA? We can start, maybe, from right to left. On my right would be Mr. Hunter.

Mr. Craig Hunter: Sometimes I'm right, sometimes I'm wrong, and occasionally I'm left. Thank you.

PMRA sent out a proposal last year for a new approach to doing these reviews. Most of the stakeholders agreed with that new approach, and they did too. They listened to our comments, and they've now put online a new way to do these kinds of things.

The new way means that they talk to stakeholders at the beginning of their process. They get information from growers and other users to understand how we're using it, where we're using it, what the rates are, what the problems are, and so on, at the beginning.

Then during the two years, usually, or more that they take to do their review, if issues have been flagged at the beginning, we then have a two-year process with all the stakeholders to conduct research, to do further evaluations, to gather more data, to help them along the way. That's denied to us in this instance. This is done the old way.

The Chair: Thank you, Mr. Hunter. I'm going to have to cut it there. The others might have time to elaborate in the other questions.

Just before I go to Madame Brosseau, I see that she still has her apple. We were all out there this morning, crunching the apple. I ate mine. I couldn't hold off. I ate mine.

Anyway, I just invite everyone to crunch an apple today.

[*Translation*]

Ms. Brosseau, you may go ahead for six minutes.

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

[*English*]

Did you want to finish quickly? I'll give you a few seconds if you want to finish your answer.

Mr. Craig Hunter: Thank you very much.

Quite simply, the old process wasn't working and isn't fair. The new process, if it had been used, would be abundantly fair because it would give us time for input at the beginning and time for discussion at the end, and then the 60-day or 90-day comment period. All we got were 60 days to comment, and now it's 90, but comment is not enough if you need more information, and that was denied.

Ms. Ruth Ellen Brosseau: More information, more transparency is important.

[*Translation*]

First, I'd like to thank our witnesses for contributing to our study today.

We have already spent two hours on this issue. We've heard from officials from Health Canada and Agriculture and Agri-Food Canada, as well as from multinationals in the pharmaceutical industry. We are now beginning the second half of our study.

This is not a black and white issue; it's extremely complex. I thoroughly appreciated your presentation, Ms. Bérubé. I think we need more time to make sure we consult all the experts. I, myself, am not an expert. I'm not a researcher, but we have to respect PMRA's decision because it is based on science. I am eager to read all the reports you mentioned, and it may be beneficial for the committee to invite other experts like Ms. Labrie.

I read an interesting article in *Le Devoir* yesterday about the study and the UN special rapporteur. In June, Quebec's commissioner of sustainable development determined that the province's ministry of sustainable development, the environment and the fight against climate change was not adequately monitoring the use of pesticides in the province. I believe the government of Quebec had pledged to reduce the use of pesticides by 25% by 2020-21. Clearly, we have some work to do.

Could you discuss the importance of conducting an in-depth study and ensuring that the committee, the agriculture working group, calls for more transparency? Furthermore, we should also hear from other organic farming groups on the reduction of pesticide use.

● (1140)

Ms. Annie Bérubé: Certainly. If you are interested in broadening the scope of your study, I encourage you to consult Quebec's environment ministry, but above all, it's agriculture ministry, and to take a good look at the province's agricultural crop health strategy. As I mentioned, it sets out tools and support for Quebec farmers looking to reduce their use of neonicotinoids, which are very expensive, by the way. Farmers who go that route have an equivalent, if not higher, agricultural yield.

I would also encourage the committee to ask farmers who want to transition away from synthetic pesticide use what they would need to do that in terms of technical and financial support. The transition to organic farming or integrated pest management is expensive, and we believe Agriculture and Agri-Food Canada has a duty to provide technical and financial support to farmers who want to make that transition. That would be an important issue to look at. Many researchers from a number of Canadian universities could provide the committee with expert opinions on the subject.

Ms. Ruth Ellen Brosseau: I have farmers in my riding who have made the transition, and it took them years, so some sort of financial support would really be helpful.

Could you comment on how accessible untreated seeds are? Is it possible to get them at all?

Then, I would like Mr. Hunter and Ms. Taylor to answer.

Ms. Annie Bérubé: Yes, it is possible. In Quebec, in fact, the data shows that approximately 50% of corn and soybean crops are grown using treated seeds. That means 50% of seeds are not treated. As I said, further to its agricultural pesticide strategy for 2015-18, the Quebec government intends to provide incentives so that farmers can access untreated seeds. They are available on the market.

[*English*]

Ms. Ruth Ellen Brosseau: Could I just get a comment from Craig or Justine? Then I want to ask another question on human health, because when we talk about pesticides, there are possible negative effects on human health and bees.

I'll just pass it over. I don't know how much time I have left, but I'm going to try to get another question in.

Mr. Craig Hunter: Sorry?

Ms. Ruth Ellen Brosseau: If you want to talk about non-treated seeds, are they available?

Mr. Craig Hunter: For vegetable production, the only vegetable seed that's produced in Canada is asparagus seed. All the other vegetable seeds that we produce come from other countries, mainly the U.S., but Holland and Japan too. They are treated there and imported here.

Take broccoli, for example. Canada would import a total of 20 kilograms of broccoli seed a year for all the acres of broccoli that we grow. The 20 kilograms of broccoli seed from a seed house in California comes the way it's treated. For them to have a special lot somewhere else for that tiny amount is pretty tough.

● (1145)

The Chair: Thank you, Mr. Hunter.

[*Translation*]

Thank you, Ms. Brosseau.

Your time is up.

[*English*]

Mr. Longfield, you have six minutes.

Mr. Lloyd Longfield (Guelph, Lib.): Thank you, Mr. Chair.

Thank you to the witnesses for coming and for the wide range of discussion we are having.

In terms of what we're trying to get, we're reviewing the process. We're not trying to replace the great work that's done by the PMRA. It's just to question the process.

I want to maybe continue with Mr. Drouin's question about the review process as it existed. We heard from only one witness, so I'd like to know how you participated in the process. Perhaps we'll start with Ms. Bérubé, asking if you have been involved with the review process. What was your involvement, and what did you take away from the process?

Ms. Annie Bérubé: As an environmental, not-for-profit organization, our only option to participate in the process is to submit comments in the public comment period. We are not considered one of the stakeholders that Mr. Hunter has referred to, who are consulted early on in the process.

I can also tell you that many of the independent university researchers who have published or have studies on neonicotinoids are also not consulted up front in the process, nor are many other stakeholders from the agricultural sector. From our perspective, we just send our comments.

We do request, from time to time, meetings with the PMRA to understand their decision-making process. It's very difficult. I'm just going to leave it at that.

Mr. Lloyd Longfield: That's great. Thank you.

Go ahead, Ms. Gue.

Ms. Lisa Gue: I guess I have just one thing to add. I will confirm that the David Suzuki Foundation and Équiterre have prepared joint comments on this particular decision and will submit them by the March 23 deadline. We would have been happy to submit them by the February 23 deadline as well.

As Annie indicated, we do have some thoughts on strengthening the process at the PMRA, but I do want to tackle the suggestion here, or offer another perspective on the suggestion that this decision has come out of the blue and took registrants and growers by surprise. The PMRA does publish a work plan for its re-evaluations of pesticides. The cyclical re-evaluation of pesticides is required by law, so the information was available on the timing of this re-evaluation and shouldn't have been a surprise, and I wouldn't have thought there was anything preventing—

Mr. Lloyd Longfield: In terms of your involvement, though, you're going to do a submission—

Ms. Lisa Gue: We will, yes, and I would think that anyone interested could have proactively approached the PMRA with additional information, knowing that this re-evaluation was in the works.

Mr. Lloyd Longfield: I think there are a range of submissions coming in, from what we're hearing.

Ms. Taylor, do you have a...?

Ms. Justine Taylor: Yes, we'll be submitting through the submission process as well, but no, we weren't consulted ahead of time either.

Mr. Lloyd Longfield: Okay, thanks.

I have spoken to the researchers at the University of Guelph and I've spoken to some of the industry reps, and they were concerned that they weren't involved in the process. It sounds as if there is a new process that's being introduced, and maybe that's something that might find its way into our discussion as we review our testimony to see what we can recommend going forward.

We're acting as members of Parliament, trying to represent ideas as best we can, trying to get as much balance as possible into our conversations, but sometimes we see these wildly divergent pieces of information. For example, the HFFA research that was released from the EU in January indicated that after two years of banning neonics in the EU, 912,000 tonnes of oilseed would have to be produced somewhere else in the market because of diminishing yields.

Ms. Bérubé, you mentioned that in your research, there wasn't a change in yields. What we've heard is that there is up to a 30% change in yields between using treated versus non-treated seeds. How do we—

Ms. Annie Bérubé: Again, it's very specific to the crop and the environment and the conditions under which those treated seeds are used. The research I have referred to is specifically to soya and corn grown in Quebec, and there is also some very good research coming out of the U.S. EPA showing the same results as well.

Mr. Lloyd Longfield: Speaking for Ontario, we have wildly divergent views here, so for members of Parliament it is difficult for us to say anything other than that we have some reports that we hope the PMRA is taking into consideration in making decisions.

Another one is the amount of water being used. The gap in the EU is 2.8 billion cubic metres of water. More water is needed because non-treated seeds versus treated seeds are being used, and 533,000 hectares of land has to be incorporated to make up for the gap in productivity. It puts enormous pressure on the agricultural community to try to produce more with less land when the land isn't available, yet the EU is trying to find 533,000 hectares to replace it.

Clearly there are some economic consequences. I know that's not part of the scope of PMRA, but it's definitely something that we're concerned with as we're trying to support the agricultural community in Canada.

Mr. Hunter, on the review process, could you comment on economic versus scientific? You mentioned the stewardship of your organization. It's very shocking that we don't produce more seeds in Canada. Why wouldn't we do that, and what's the economic result if we go a different route from the rest of the world?

● (1150)

Mr. Craig Hunter: There simply is not the capacity in the seed industry to produce all of our vegetable seeds and to make a profit. Our market is too small. The downside is that we accept varieties that may not be perfectly suited to our climate, environment, diseases, and insects in terms of resistance. Again, the economics aren't there.

However, if you're in the corn, soybean, wheat, or barley business, absolutely, there's a big seed industry, and they are producing seeds with the kinds of genetic backgrounds that are profitable for our growers.

Mr. Lloyd Longfield: We'll be hearing from them later today.

Thanks, Mr. Chair.

The Chair: Thank you, Mr. Longfield.

Thank you, Mr. Hunter.

[*Translation*]

Mr. Breton, you have six minutes.

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

Thank you all for being here today to help us unravel an issue that is quite complex, as some of my colleagues have pointed out.

Of course, we have to make sure that those of you in the industry remain efficient and competitive in the current marketplace. We also want to foster the conditions for environmentally sound and sustainable production. There seems to be no doubt that this product, imidacloprid, is widely used in the industry.

Are there no other available products that could be used, ones that would be less detrimental to the environment, as the studies seem to show?

[*English*]

Mr. Craig Hunter: First of all, imidacloprid is a replacement product. It replaced the old organophosphate, organochlorine, and carbamate products that were very toxic to humans. The neonics are considered to have much lower toxicity to the farmers and farm workers. That's important for you to know.

In terms of the effect on the environment, all registered pesticides in Canada have gone through a battery of tests and have been approved for use under Canadian conditions, all of them. In terms of what's softer, I have a concern that if you can use one and you have to replace it with three or four, what is the net environmental insult of three or four versus one? No one has answered that question.

[*Translation*]

Mr. Pierre Breton: Ms. Gue, you may go ahead.

[*English*]

Ms. Lisa Gue: I'll add a perspective here that we do have to be cautious. Often the use of neonics is pointed to as an overall reduction in pesticide use because quantities of that active ingredient are smaller in terms of volume, but what makes them problematic from an environmental perspective is that combined with their persistence and water solubility, they are active and they are toxic at very, very low levels in the environment, and they persist in the environment.

Therefore, we have to think a bit more broadly about how we make advances around pesticides and shift towards alternative agriculture. It can't be measured only in terms of volume used. It must also be measured in terms of toxicity, and again I want to reinforce what my colleague suggested earlier and encourage the committee to entertain a study on this broader issue of how Canada can support a shift so that we're not just jumping from the frying pan into the fire, trading one toxic chemical for another, and relearning the same mistakes over and over again. We could make a shift away from chemical-dependent agriculture.

[*Translation*]

Mr. Pierre Breton: We are hearing different and compelling points of view. Thank you.

Ms. Gue and Ms. Bérubé, you both said that you were in favour of PMRA's decision but had some reservations regarding the three- to five-year phase-out period. Both of you told us that.

Do you not think the timeline is a good thing because it gives scientists and researchers time to find other products that could potentially help the industry, which, at the end of the day, serves each one of us as consumers?

I'd like you to expand on your point of view.

● (1155)

Ms. Annie Bérubé: Under the Pest Control Products Act, the Minister of Health is responsible for determining whether the health and environmental risks associated with the use of a pesticide are acceptable. The decision-making process does not take into account whether another option is available. That is not a factor that influences the final decision. The focus is on determining whether the product poses an acceptable risk to human health and the environment.

As mentioned, the re-evaluation has been under way for a number of years. It was known that the decision was coming. It is also a fact that other countries have already put the restrictions in place and developed substitute products to replace the pesticide.

We don't think the three- to five-year phase-out period is necessary. What's more, it is unwarranted considering the risks the product poses to ecosystems.

[*English*]

Mr. Pierre Breton: Madam Gue, do you want to add something on it?

Ms. Lisa Gue: I'll just repeat that in fact the PMRA offers no justification for the timeline it proposes in the re-evaluation decision. In other words, I agree with what Annie has just said.

[*Translation*]

Mr. Pierre Breton: Thank you.

That is all.

The Chair: Unfortunately, that is nearly all the time we have for today.

[*English*]

That's it for this first hour.

I want to thank the panel for being here and for their very interesting, very different opinions. That's what we're trying to get at, to make sure that we have the right information.

[*Translation*]

Thank you, Ms. Bérubé and Ms. Gue.

[*English*]

Ms. Taylor, and Mr. Hunter, for being with us today.

We will take a break. There is a hot buffet outside. I urge everyone to go and get a plate. Be back as soon as possible so that we can continue the second hour.

Thank you.

● (1155)

(Pause)

● (1205)

The Chair: We will take our seats as soon as we can and get going.

Welcome to our panel for our second hour on the PMRA decision concerning neonic insecticides. With us here for the second hour, from the Canadian Honey Council, is Rod Scarlett, executive director. Welcome, Mr. Scarlett.

From the Grain Farmers of Ontario, we have Mr. Mark Brock, chairman. Welcome, Mr. Brock.

[*Translation*]

Pierre Giovenazzo teaches apiculture science at the Centre de recherche en sciences animales de Deschambault, at Université Laval.

Welcome, Mr. Giovenazzo.

You will each have 10 minutes.

That said, I must first put a motion to the committee.

[*English*]

We need to pass this motion regarding the title of our study for the U.S. visit. It's basically just the same title that we will use right through, so it could read like this:

> That the committee undertake a study related to Canada-United States Cooperation in Agriculture.

Are we okay with that title?

[*Translation*]

We have a consensus, then. Thank you everyone.

We will now proceed with the presentations.

Would you care to start, Mr. Giovenazzo.

Mr. Pierre Giovenazzo (Professor, Sciences apicoles, Centre de recherche en sciences animales de Deschambault, Université Laval, As an Individual): Thank you for inviting me. This gives me an opportunity to share not just my personal view, but also the view of the beekeeping stakeholders I represent in Quebec and Canada.

I'll begin by telling you about the Centre de recherche en sciences animales de Deschambault, or CRSAD, and Canada's apiculture problem. I will also discuss the subject of the committee's study, the imidacloprid re-evaluation.

CRSAD's mission is to carry out animal science research and development. Our work is not limited to bees; we study all farm animals.

CRSAD is unique in its innovative approach to supporting animal science research and in its diverse areas of activity.

CRSAD keeps 300 bee colonies for the sole purpose of apiculture research.

CRSAD works with Université Laval, where I am a professor and teaching leadership chair in apiculture science. The centre also partners with other universities and even the private sector to carry out apiculture research.

We have published results in the following areas of research: genetic selection; productive colonies adapted to the Quebec climate; bee reproduction; the condition and fertility of queens and males; nutrient requirements, which are now extremely important; bee disease and parasitosis; pollination services; colony development dynamics; and the impact of pesticides on honeybee colonies.

Canada's beekeeping challenge is interesting for two reasons, which I will explain.

Right now, in Quebec and Canada, we are seeing a pretty remarkable rise in pollination services; bees are needed. A Government of Canada study released last year estimated the value of honeybee pollination to crops at approximately $2 billion. That is the economic value of honeybees to Canada's agricultural sector, be it blueberry, cranberry, or apple production, or even canola in Alberta.

Despite that, bee colonies have been suffering significant losses for 10 years, with annual mortality rates of between 20% and 25% in the winter and nearly 20% in the summer. The industry is experiencing tremendous losses in productivity.

In spite of these yearly losses, Canada's beekeeping industry is growing, which seems somewhat contradictory. With more colonies than before, the industry is experiencing rather sizable growth. Quebec, for example, now has around 60,000 colonies, versus the 35,000 it had 10 years ago. The growth has been fairly swift despite reduced biodiversity and expanding farmland. That is the context bees are evolving in.

To support this growth, Canada imports packaged bees, including queens, from a variety of countries. Since 2011, queen imports have gone up 92%, with colony imports rising 66%. That means our beekeeping industry cannot sustain itself. That is an important point to keep in mind.

I will now turn my focus to the decision to phase out imidacloprid.

Bees are truly the sentinels of the environment. A single colony can have 20,000 bees flying around and coming into contact with all kinds of flowers. They harvest the environment.

Beekeepers operate in agricultural areas, which receive pesticide and pest control treatments. Bees have to cope with that reality. It's important to realize that we are dealing with the environment of bees. Pesticides fight against insects, but bees are insects. There is clearly a problem.

● (1210)

The first message I want to convey is that the bee industry and agricultural industry must work together when new products enter the market.

A good collaborative approach helped to change planting methods. A problem was identified, and everyone worked together to solve it. The planting method was changed to reduce the use of imidacloprid dust, which helped lessen the impact on the bees. It was a good collaborative effort in the industry. This is the proper way to work.

I also want to talk about the unreasonable use of coated seeds. Integrated pest management was mentioned earlier. It doesn't consist only of using organic pesticides. It's a strategy that enables us to use all the tools available, including synthetic pesticides. However, the use of coated seeds in prophylaxis, or as a preventive measure, isn't integrated pest management. The heavy use of coated seeds is likely a problem. An adjustment must be made to avoid the excessive use of these seeds.

I'll finish by saying that, even if we measure the levels of sub-lethal effects resulting from these products, we must realize that the effects aren't sub-lethal all the time. It depends on the bee's health, parasites and potential diseases. A pesticide in the environment at a sub-lethal level could have a lethal effect if the pesticide reaches a sick bee or is associated with other pest control products found in the environment, especially if other synergistic products are present.

I'm a member of the Table filière apicole du Québec. We're concerned about the phase-out of this pesticide, because it means that another product or other products such as those mentioned earlier will enter the market. We're very concerned about this because we'll likely need to study the impact of these new products on bees. We'll need to use federal funding to conduct new research. It's unfortunate, because the funding is currently needed to conduct apiculture research and to advance knowledge in the field, and not to verify whether a pesticide is harmful.

I conduct apiculture research, and I want this industry to grow. I don't want to study pesticides, but the dynamics of a bee population, the queens and their fertility. This will move our bee industry forward. We're always very concerned about new products.

Thank you.

● (1215)

The Chair: Thank you, Mr. Giovenazzo.

[*English*]

Now we have Mr. Brock for 10 minutes.

Mr. Mark Brock (Chairman, Grain Farmers of Ontario): Thank you, Mr. Chairman and members of the committee, for this opportunity to provide our comments on the PMRA's proposed decision on imidacloprid.

My name is Mark Brock. I'm chairman of Grain Farmers of Ontario. I operate a farm, in partnership with my wife Sandy, in Hensall, Ontario, where we grow corn, soybeans, and wheat in rotation. We also raise livestock.

The Grain Farmers of Ontario is the largest commodity organization in Ontario, and represents 28,000 barley, corn, oat, soybean, and wheat producers. Our farmer-members cover six million acres of farmland across the province, generate over $2.5 billion in farm gate receipts, and are responsible for over 40,000 jobs in the province.

Neonics like imidacloprid are tools our farmer-members use to protect their crops from insect damage. Insects can cause many problems with our crops. They can starve a plant of the nutrients that it needs to grow; they can kill a plant, reducing our overall yield; and they can cause severe damage that will render a plant not suitable for our high-value export markets.

Some insects live below the soil and feed on the roots of the plants, and some insects fly in and eat the leaves or fruit off the plants. Neonics are primarily used as a coating on the seed, commonly called a seed treatment, which protects the seeds underground and during germination and provides some protection from leaf-eating insects during early growth.

Seed treatments are a very effective method of delivery, and the system for coating the seeds ensures the health and safety of our farmer-members. The seeds are coated in a factory before delivery to the farm, so farmers have limited exposure to the pesticide. In the past, before neonics were introduced, products were applied by the farmer in the field, increasing the health risk to the farmer. Today's modern system provides the farmer with pre-coated corn and soybean seeds so that both the seed and the pesticide are planted together. This results in less pesticide required to do its job because it is put directly on the seed, protecting it, rather than spread in the soil. This is an isolated, targeted approach to crop protection.

Seed treatments are an important tool for us in our environmental and sustainable practices. Many grain and oilseed producers have adopted no-till systems that reduce greenhouse gas emissions on the farm. Many of us also plant cover crops that improve soil health and reduce the runoff of phosphorus into the Great Lakes and tributaries.

These types of farm practices would not be possible without tools like neonic seed treatments. Cover crops and no-till results in increased insect populations that flourish in the undisturbed soil. The seed treatment allows farmers to protect each individual plant from these insects that grow in that environment. If not for seed treatments, many farmers would be less likely to plant cover crops or practice no-till because their crops could not withstand the insect damage.

Today there are no alternatives in the marketplace or in the technology pipeline that provide the same level of protection and safety for our farmer-members. Last year there was an introduction of a similar product into the marketplace, but it's not available for soybeans, nor does it cover the same array of insects that the three neonics do. It is also being sold at four times the cost of the neonic seed treatment, even though it provides less protection. We have seen some Ontario farmers transition to this product, but we do not have enough years of experience to know what its weaknesses are and what it will or will not be effective against.

Neonics remain an important product for us, and they are products our competitors in the U.S. have access to. The Conference Board of Canada determined that the impact of not having access to neonic seed treatments would cost $600 million annually to corn and soybean farmers in Ontario alone. This number does not take into account the costs of other crops, but does include the cost of using alternative products.

It is important that our farmer-members have a tool box of technology to choose from, not only to deal with pest and disease pressures that we face, but to also remain competitive with international markets that have access to these products.

Our farmer-members have a long history of adjusting our practices when risks are identified, and we appreciate the working relationship we have with our regulators to figure out risk mitigation solutions. An example of this is the action the industry took to address the issues that arose a few years ago with bee health. PMRA identified the risks to bee health, and we adopted new practices to protect bees in the very next growing season. To date, it has proven to be successful, and honeybee populations have been improving since these new practices have been instituted.

Access to technologies like neonics is essential for our farmer-members to grow sustainably and to compete in the international marketplace. We look to PMRA to assess the safety of these products, and, if possible, we would prefer the opportunity to adjust practices to mitigate risks than rather than see products phased out. The phase-out of products limits the tool box that our members can access and can put a chill on future investments in Canadian agriculture.

● (1220)

We appreciate the establishment of the neonics forum chaired by AAFC. This forum has been established to address the issues that have arisen from the proposed decision on imidacloprid and is also looking at the special reviews on clothianidin and thiamethoxam. The staff at AAFC, PMRA, and Environment Canada have dedicated time and expertise to this process, along with academia and other interested parties. We are hopeful that it will result in a national protocol for environmental monitoring and risk mitigation opportunities that can be adopted by farmers.

Our farmer-members understand and take very seriously the responsibility to protect our environment, including Canada's air, water, and soil, and the ecosystems that thrive there. We are stewards of the land. The time we spend on our fields gives us a unique understanding of the environment and the different ecosystems. We know the decisions we make in our fields impact the environment. We are invested in the environment, not just because it is the right thing to do but also because our livelihood depends on it. That is why we support the PMRA in fulfilling its mandate to protect Canadians and the environment from unacceptable risks posed by pest control products.

We are committed to working with the government and other stakeholders to address environmental concerns and implement strategies that are environmentally responsible. Aquatic invertebrates are integral to the health of wetlands, creeks, and streams across Canada. We are committed to reducing risk and ensuring aquatic invertebrates continue to thrive in our ecosystems. To reduce the risk to aquatic invertebrates we must first understand the risks, and we rely on the PMRA to conduct credible and thorough risk assessments to identify unacceptable risks. We believe the work the forum completes on risk mitigation, environmental monitoring, and alternatives is valuable.

We are hopeful that the work of the forum will lead to a risk assessment that can be narrowed down through this coming season with a more robust environmental monitoring system in place, and we hope that this work will ultimately provide an opportunity to maintain access to these vital crop protection products for our farmer-members if the right mitigation is implemented to address these risks. If they cannot be managed, we are committed to working with government and stakeholders on an orderly phase-out of the products if the risk is too unacceptable.

We would like to thank you for the opportunity to speak to you today, and I am open to any questions that you may have.

The Chair: Thank you, Mr. Brock.

Now we will hear from the Canadian Honey Council. Mr. Rod Scarlett, you have up to 10 minutes.

Mr. Rod Scarlett (Executive Director, Canadian Honey Council): Mr. Chair, members of the committee, on behalf of the Canadian Honey Council I'm pleased to have the opportunity to contribute to your study of PMRA's recent proposed decision on imidacloprid.

The Canadian Honey Council represents more than 9,000 beekeepers across Canada, who manage more than 750,000 colonies. Their contribution to the Canadian agricultural industry exceeds $4.5 billion. Beekeepers and farmers have a mutually beneficial relationship, as beekeepers are often dependent on landowners for yard placement, while farmers get the benefit of increased pollination of their crops, resulting in greater yields.

As many of you are aware, the status of bee health in Canada has been and continues to be at the forefront of attention in the public arena. Contrary to many preconceived notions, the numbers of managed bee colonies in Canada have been steadily increasing despite the pressures of pests, pathogens, reduced or changing habitat, and pesticide exposure. Indeed, the latest Statistics Canada numbers indicate a record number of colonies in Canada in 2016. Those numbers can be a little deceiving, as increased numbers are driven not only by economics but by and through the hard work of beekeepers, often at increased expense.

The co-operative work that industry and governments have done to mitigate the risk of pesticide exposure to the honeybee population is commendable. The work of the Agriculture and Agri-Food Canada Bee Health Roundtable is a shining example of this co-operative effort.

The Canadian Honey Council has from the very beginning maintained that the Pest Management Regulatory Agency should be the scientific barometer upon which policy and action are based. To a very large extent, the actions that have been taken with regard to mitigating pesticide exposure of honeybees have been quite successful, particularly those related to exposure from coated seeds. Certainly questions remain, particularly those related to some foliar sprays and long-term cumulative exposure impact, especially to neonics, but on the whole, work by government, equipment manufacturers, life science companies, seed companies, farm associations, and beekeepers themselves has been very admirable.

The Canadian Honey Council cannot comment on the scientific basis for the planned phase-out of imidacloprid, since the basis for the decision was made independent of honeybees. Indeed, in their preliminary pollinator-specific assessment for imidacloprid, the PMRA indicated that the potential risk to bees can be mitigated.

What we can comment on and what we do have a concern about is the potential impact that alternative products the farmers will have available to them may have on honeybees. If the alternatives are old chemistries with limited impact assessments done on pollinators, they may prove more harmful to honeybees and other beneficial insects than the current situation.

We understand the PMRA has not analyzed potential impacts of the adoption of all alternative products on bee health. Options that become available to farmers must be economical as well as provide a risk mitigation strategy acceptable to both the user and the beekeeper. It does no one any good if the replacement products are either too expensive but pollinator-friendly or cheap but creative of high risks to pollinators.

Comprehensive and comparative pollinator assessments of alternative products, in particular those with older chemistries, should be conducted now to ensure that the proposed risk mitigation approach does not create more problems than it solves.

The Canadian Honey Council has tried to work from the premise that co-operative solutions result in co-operative wins. With PMRA proposing a phase-out of of imidacloprid, we need to ensure that the "what next" genuinely is better for all stakeholders.

Thank you.

● (1225)

The Chair: Thank you, Mr. Scarlett.

We'll go right into our question round.

[*Translation*]

Mr. Gourde, you have six minutes.

Mr. Jacques Gourde: Thank you, Mr. Chair.

My question is for Mr. Giovenazzo.

In your statement, you referred to bee colony losses of 25% in the winter and 20% in the summer. Have these losses increased in the past five or six years? Are these normal losses for a colony?

Mr. Pierre Giovenazzo: The losses vary, so to speak.

In recent years, things have been going much better in Canada, where losses are under 20%. However, losses in certain provinces, such as Manitoba and Ontario, have exceeded 30% in the past five years. The losses aren't equal across the country or from year to year.

In the past three years, the winter mortality rate appears to have lowered. This rate is the easiest to measure. We compare the number of bees that enter the hive in the fall with the number that leave the following year. In the summer, it's very difficult to manage. The estimates are always slightly less accurate.

To answer your question, on average, the losses have exceeded 20% in the past ten years. I think the winter mortality rate in Canada is 24%.

● (1230)

Mr. Jacques Gourde: Are all colonies in Canada imported? Is there a bee manufacturing industry?

Mr. Pierre Giovenazzo: Good question. One of the goals of the Canadian beekeeping industry and the Canadian Honey Council, in Quebec and all provinces, is to move toward self-sufficiency, which is currently inconceivable.

For example, if 20% of the bees have died by May, to compensate for the losses, bees must be purchased from places abroad, such as California, Chile, New Zealand and Australia. Queens are imported to replace the deceased queens, and 1.5-kg packages of bees are imported. At this time, the packages are mainly from New Zealand.

That's how beekeepers quickly rebuild colonies. Then, in June and July, beekeepers can increase the number of bees when the colonies become stronger. They can create splits, which are called “nucs”. That way, they can increase the swarms. I can tell you that things are moving these days, because bees are needed.

Mr. Jacques Gourde: Are Canadian colonies similar to each other? Are they more resistant than immigrant colonies imported to the country?

Mr. Pierre Giovenazzo: There's a major difference. Some groups, such as CRSAD, genetically select honey bees. In these centres, bee colonies are chosen for their hardiness, meaning their overwintering survival. The colonies are selected for the spring build-up, so they can be strong for the blueberry and cranberry season. This makes a big difference when bees with other genetics are imported.

Beekeepers certainly love local genetics.

Mr. Jacques Gourde: Would it be correct to say that bees that survive the first winter are better adapted to our Canadian climate when they're born to mothers who lived in Canada?

Mr. Pierre Giovenazzo: It's one of the selection principles. We first select the bees that survive the winter, obviously.

Mr. Jacques Gourde: Are the bee colonies produced in Canada more resistant in environments where there are pesticides, as is the case in Canada?

Are the second colonies better adapted than one colony from abroad that has never been in contact with a pesticide environment?

Mr. Pierre Giovenazzo: Good question. There's no work on phenotypic selection, or the selection of a characteristic in order to produce bees that tolerate pesticides. I've never seen this.

However, we've observed that it's very difficult to keep bees in a strongly agricultural region, such as Montérégie, and in a region where a great deal of corn is found.

I'm not necessarily saying that pesticides are the reason. The reason is a lack of flora biodiversity.

Mr. Jacques Gourde: Is there a link—

Mr. Pierre Giovenazzo: The bee nutrition issue is significant.

Mr. Jacques Gourde: Exactly. In these regions, wouldn't it be better to establish a program in which perennials could be planted in flower beds and flowers could be planted to try to increase the flora area?

In a region where agriculture is very concentrated and where 80% of the area is covered in crops, there's no space left for flowers, apart from the space around the houses in the villages.

Mr. Pierre Giovenazzo: That's currently a very active research field, not only in Canada, but also in the United States, where a great deal of work is being done on agricultural land development.

Mr. Jacques Gourde: Weren't flower fields planted in Europe to help—

Mr. Pierre Giovenazzo: Yes, in fallows. It's developing slowly. The right plants must also be selected. They need to bloom at all times. Bees are constantly feeding themselves. It's not as simple as it seems. We're not just talking about planting flowers in flower beds. There must be a variety of flowers that blossom all season long so that bees can feed themselves. This is much more important for the natural pollinators. The agricultural bee or the domestic bee can be fed, like livestock. We have food for bees.

Personally, I'm working on probiotics for bees, an evolving field of research. We're trying to create food products for bees. The bee lives in an agricultural environment or in an area with little flora diversity.

● (1235)

The Chair: Thank you, Mr. Gourde.

[*English*]

Mr. Peschisolido, you have six minutes.

Mr. Joe Peschisolido (Steveston—Richmond East, Lib.): Thank you.

I'd like to welcome the witnesses. Your presentations were very, very informative.

[*Translation*]

My first questions are for Mr. Giovenazzo. Did you find the review process useful? Did you have the chance to participate?

Mr. Pierre Giovenazzo: I didn't have the chance to participate. I'm not a toxicologist. I'm an apiculture researcher. However, I follow what's going on at the PMRA extremely closely. I think the PMRA is a government entity that works very well. It's made up of scientists who conduct analyses, but things aren't easy. The registration process takes into account one pesticide in particular. When the process takes place in a normal environment, there's no longer only one pesticide, but a variety of pesticides.

Let's talk about my bees, for example. When a new product is introduced, as will happen after the phase-out we're addressing, the PMRA will register the product based on its toxicity. They don't look at whether the bee is sick, at what happened at that time or at whether any other products are found in the environment. These considerations are not part of the PMRA's process. It would be far too much. It goes beyond the PMRA's mandate.

That's my concern. Independent researchers will again be required to work on this issue and to verify the impact of these new products entering the market.

Mr. Joe Peschisolido: Last Tuesday, we talked about the models used for reviewing these products. As a researcher, do you have suggestions regarding the model we could use?

Mr. Pierre Giovenazzo: I can't answer this question. It's too difficult for me and it's not my field. As I told you, I'm not a toxicologist. Toxicologist are specialists who know how to handle these types of questions, and I trust them. They produce results using the tools in their possession.

Mr. Joe Peschisolido: You said that bees were sentinels of the environment. Can you elaborate on this?

Mr. Pierre Giovenazzo: I didn't invent the term. It was created at Apimondia 2009, in Montpellier. The Apimondia's theme was “The Bee, Sentinel of the Environment”. A single colony of bees can have about ten foragers. In other words, as soon as the weather becomes warm, 10,000 bees leave and touch everything. They then return to the colony and bring back everything around it, including all the residue in the environment. Work was done to collect the pollen in the hives and measure the variety of pesticides or products found in nature. It's incredible! The bees live in these environments and accumulate these substances. They're good indicators.

A company near our research centre had two hives. Each week, the company took samples to verify whether the fumes from its chimney affected the environment. It's not new.

[*English*]

Mr. Joe Peschisolido: Okay.

Mr. Brock, It's good to see you again. I'd like to ask you the same question I asked Mr. Giovenazzo. Did you find the process helpful or useful? Did you participate? As well, what changes could be made to improve the whole process?

Mr. Mark Brock: I really appreciate your question.

We were part of the process and are involved in the process. Really, when I step back and look at the situation as a whole, I think that when we bump into these issues around concern about the products that farmers use within the environment, we do put a lot of value on the environment. We want to mitigate as much risk as possible. This forum that was created with AFC had the dialogue and the input and broke it out into looking at risk mitigation, environmental monitoring, and alternatives. I think it was an excellent process to have these discussions around risk mitigation.

I get concerned when there's a request to have a product removed from the marketplace. I think we would lean toward the bee example we had within Ontario. In that case we were able to make some adjustments to our management practices and reduce the impact to bees. I think that's a model example that we could use going forward: before a product is taken away from the marketplace, we have this ability to look at the risk and get to a point where the risk to society around the products we use is acceptable. We're using those products with society's trust in that respect.

As they open up this consultation period, I think it would be nice to have this opportunity before decisions are made. That way we can have a really clear path forward and get to where we can feel okay as a society that we accept this risk—with input from primary producers like us—and we can go forward with consumer trust on the issue.

● (1240)

Mr. Joe Peschisolido: Mr. Brock, you mentioned alternatives, and I believe the experience with the Ontario government. What have you and your organization learned from that? Are there alternatives that can be used, based on the experience there?

Mr. Mark Brock: There are some alternatives, as I highlighted in my presentation to the committee, around some new seed treatments that are registered for corn. They're more expensive and provide less control, or a narrower spectrum of control, so that they're not quite as effective in the marketplace. We're not sure how well they will help us mitigate the risk or what the economic impact will be to the farms.

In the Ontario situation we tried to go into a dialogue of looking at risk mitigation strategies there as well. We ended up with a regulation around restricting the use. I think a more constructive dialogue and an agreed approach on what we're trying to accomplish would have been a far more effective approach.

The Chair: Thank you, Mr. Brock, and thank you, Mr. Peschisolido.

[*Translation*]

Ms. Brosseau, you have six minutes.

[*English*]

Ms. Ruth Ellen Brosseau: Thank you, Chair.

I'd like to thank the witnesses for their presentations.

Mr. Brock, can you talk to us a little bit about the availability or the prices of treated and non-treated seeds?

Mr. Mark Brock: Sure. The way it usually works for corn, depending on the company a farmer would purchase seed from, is that we have the ability to buy seed that's treated with an insecticide or without an insecticide. On the neonic-treated side, it's usually around $4 to $5 a bag for the seed treatment. When you get into this newer seed treatment that I talked about, it could be upwards of $25 to $35 a bag more per unit.

Ms. Ruth Ellen Brosseau: Where do they come from?

Mr. Mark Brock: The seeds are available through life science companies through their genetic base. They're life science companies, so they provide seed chemical and those kinds of inputs.

Ms. Ruth Ellen Brosseau: It comes from other countries?

Mr. Mark Brock: Yes. There's some production of soybean seed within Ontario and within Canada. There is a very limited amount of seed corn produced in Canada. A lot of it does come through the U. S., just because of their ability to produce it and manage it better. A little bit is produced within Canada, but the vast majority is imported, especially corn.

Ms. Ruth Ellen Brosseau: The PMRA has proposed a phase-out of three to five years. I really like the comment you made, Mr. Scarlett, about co-operative solutions and co-operative wins. I think that's really important. I think there needs to be collaboration. There needs to be discussion. Work needs to be done if we're going to go ahead and have this phase-out. It's been done in other countries. It's possible.

What kind of recommendations could you give to the committee to make sure that there is a transition, or how would you see that transition happen?

That's for Mr. Brock, Mr. Scarlett, or whomever. It's kind of a big question.

Mr. Mark Brock: From my standpoint, I'd prefer maybe not to look toward a phase-out but toward an agreed approach on developing what the acceptable risk is for the product and then taking steps to mitigate that risk.

Maybe in the three-year period we can re-evaluate how the measurements of these risk mitigation strategies worked. At that point, if there is still a problem or if there is new science, we can have another conversation around whether the value proposition of the risk is great enough.

Ms. Ruth Ellen Brosseau: I think there was consensus from some of the comments earlier that if this product goes away, if we aren't allowed to use it, there is a fear of what it is going to be replaced with. When we had people at committee on Tuesday.... Something else is going to come on the market. They're going to replace it with something else. Could you comment on that?

Obviously we want to make sure that we mitigate the risks, because the environment is your livelihood. We want to make sure that we work hard, and farmers do an amazing job defending and protecting the environment, but could we just get some comments?

● (1245)

Mr. Mark Brock: Sure. My opinion on that situation is that if you were to remove this product from the marketplace tomorrow, yes, there would be work being done in the pipeline of life science companies to find products to replace it, but my concern would be the gap period between when I lost the use of that product and when a new one would hit the marketplace. What would the impact of that be on my farm with regard to how I'm achieving environmental sustainability? By default, I would have to fall back to some of those products that are more toxic to the environment, that are less strategic in their approach, and that are harmful to some of the insects that I rely on, insects that aren't harmed by neonics.

My concern would be that gap period when we would have to use older technology that would have a greater impact and be less sustainable until new products could find the marketplace.

Ms. Ruth Ellen Brosseau: Mr. Scarlett, have you any comments on that?

Mr. Rod Scarlett: I can't really comment on the assessment right now because it doesn't have to do with honeybees.

PMRA, in our opinion, has done a really good job of doing pollinator assessments separately from what's going on now. Again, we come back to the alternative products and to ensuring that they have adequate time to do effective pollinator assessments. Because of the gaps that currently exist in those assessments—as I mentioned on cumulative effects, for example—that can't happen in a day or a year. It may take a few years to get the proper results. In that regard, whatever happens next, those pollinator assessments need time to be done properly and adequately.

[*Translation*]

Ms. Ruth Ellen Brosseau: I think we really need to invest more into research on bee health.

Mr. Giovenazzo, you referred to self-sufficiency. I know that queens are imported. Could Canada one day become self-sufficient in the beekeeping field?

Mr. Pierre Giovenazzo: I would like that, and the beekeepers would like that as well.

Ms. Ruth Ellen Brosseau: Okay.

Mr. Pierre Giovenazzo: Could self-sufficiency be achieved? It would be very difficult, as a result of winter.

Ms. Ruth Ellen Brosseau: Okay.

Mr. Pierre Giovenazzo: Beekeepers need bees in the spring. We're not ready to produce at that time.

Some Canadian industries are currently establishing themselves in California to produce queens with Canadian genetics in warmer countries. This strategy could be adopted.

However, the self-sufficiency goal is achieved through genetics adapted to our beekeeping.

The Chair: Thank you, Mr. Giovenazzo.

Thank you, Ms. Brosseau.

[*English*]

Now, Ms. Lockhart, you have six minutes.

Mrs. Alaina Lockhart (Fundy Royal, Lib.): Thank you, Mr. Chair.

Thank you to our witnesses as well.

I really appreciate your testimony today, because I'm the type of person who tries to approach any challenge by finding common ground. What we have heard today from all of our witnesses is that the environment certainly is a priority for everyone. We all understand what the impact can be when we toy around with the environment.

Having said that, what I'm hearing from you, specifically from the beekeepers.... We did some work on bee health last June. We heard then that there were many factors that were affecting the health of bees, and we talked about neonics at that time. Am I hearing you say today that the bee industry is not necessarily pointing to neonics as the sole negative impact on the bee industry?

Mr. Rod Scarlett: If I can answer, you said “sole negative impact”, and that's correct; it is not the sole negative impact.

As I mentioned in my statement, there are a number of different impacts on bee health. Neonics is one class of pesticides that has an impact. We use pesticides within colonies to kill mites within the colony itself. There are a number of impacts.

● (1250)

Mrs. Alaina Lockhart: I think it was during that time that we also talked about mitigation and what had gone on in Ontario as that was happening.

I'm wondering, Mr. Brock, if you could elaborate a little about some of the mitigation processes. What happened with the seed treatment and that sort of thing in that time frame?

Mr. Mark Brock: I think there is even a broader perspective within the seed treatments. What happened was that the regulation that was put in place required us to prove a need for the use of neonic-treated seed through soil-testing protocols. We had to find so many bugs in a site in order to prove that we needed the use of it. That has come fully into effect for this planting season, with a kind of third party auditing system that's going to start next year.

Beyond that, I think farmers in Ontario identified the risk and decided they wanted to take steps towards that. We wanted to do it in a non-regulated manner. The government decided that regulation was one path they wanted to take, so they did it.

With regard to expanding adoption of cover crops, I plant sunflowers and buckwheat after winter wheat, and it's just loaded with wild pollinators and whatever other pollinators are out there.

Those are some of the strategies that producers are using on their own initiative. We're not singularly focused just on seed treatments; we're looking at the broader environmental impacts on our farms and looking at the risk. It's naive to think we aren't having some impact on the environment. Our job is to minimize it or get it to a point where it's at an acceptable level that society is okay with.

Sometimes I think we argue with society about what that level is, and I think we have to have a broader debate about that. However, those are some of the strategies that are in place.

Mrs. Alaina Lockhart: Very good. Thank you.

In our previous panel we talked about the old process for PMRA and the new process. The comment there was about having two years versus one year for review. How do you feel about that?

Mr. Mark Brock: Personally, when I look at the situation—and I'm not a scientist; I'm a farmer who loves to be out in the fields—I look to PMRA as being our science-based regulatory body that does work to ensure that the products that come to the marketplace have acceptable risk.

I think if PMRA has identified concerns around the products we use, I'd sooner go into a consultative dialogue with them about risk mitigation strategies and let them and the registrants do the science. When you get into some of these more difficult conversations around acceptable risk, I think that's when the consultative nature needs to come in to try to minimize impact on the environment. We would love to be part of that, as primary producers who use the products.

Mrs. Alaina Lockhart: That leads to something we've talked a lot about in this committee, which is the public perception of agriculture and working together so that people have confidence in their food source, especially as it's a priority to continue to grow our agriculture sector. Thank you very much for that.

I will share my last minute with anyone here.

Go ahead, Lloyd.

Mr. Lloyd Longfield: It's great to have two beekeepers in the room, or people who are attached to that industry, because we were very interested in it.

A term that was being used in our previous study was “Internet science”. There are a lot of opinions about bees out there, and there are some things in the States that are different from Canada. One of the areas where we found a great difference was in overwintering nutrition.

I represent Guelph, and at the University of Guelph a lot of scientists have been looking into nutrition as a way of increasing the success rate over winter. The number we had in our last report was a 14% loss over winter, not 25%, so there will be some differences across Canada.

Could you comment on overwintering as a bigger problem or a lesser problem from what you're seeing in relation to the seed treatments?

Mr. Rod Scarlett: Certainly overwintering is an issue, and it has become, really, a public barometer of bee health, but it's very regional in nature.

You're right that in certain areas it's 14.8% or 14%, but in Ontario, if we go back three years or four years, it was upwards of 50%. It's regional and it's seasonal, but it's also very important, because it does give a snapshot. It doesn't give an overall trend, let's say, from year to year, but from year to year, we do see an overwintering loss number that at times is economically unsustainable for beekeepers. It's trying to get to below that level that's important.

● (1255)

Mr. Lloyd Longfield: Thank you.

The Chair: We'll just go along. You had your one minute, plus it's your turn for six, so we'll continue.

A voice: You're the man, Lloyd.

Mr. Lloyd Longfield: This is tremendous. Thank you.

We're hoping to end up with some comments from this committee. It's not a full study we're doing, but we wanted to have the chance to do some consultations. At the time we had a motion on the floor to do this consultation, we didn't have an extension in the amount of time that PMRA was allowing for consultation. Now there is an extension, and we'll be close enough to the end of that by the time we've done our discussions here.

In terms of the consultations, do you have enough time? Do you feel as though enough time is being taken? One of the previous witnesses talked about a new system of review that would include these study groups that have been established during the extension that we got, which weren't there when the first consultations were happening, and would maybe involve the beekeepers and the other related industries. Could you comment on the period of time for review? Also, what would you want us to say to PMRA in terms of our next steps?

Mr. Mark Brock: From my standpoint as a farmer, it's hard for me to really understand the review process, to a certain degree, at PMRA. From my standpoint and from our organization's standpoint, we are looking at the registrants to understand what that process is and we want to make sure there's time available for them.

As I said before, I think there needs to be that collective approach in the review process, especially if PMRA identifies some areas they're concerned about, so that we can have some dialogue around that and not be caught off guard or find the industry scrambling to come up with some of the information that's required.

When we look at some of this work that needs to be done, it's going to have to happen over this growing season. We're going to need some time to figure out where the hot spots are, where it's coming from, and how we can take steps to mitigate that. It's a long-term and thoughtful process. At the end of the day, as a producer, I don't want to see us drift towards that European, hazard-based regulatory system. I very much appreciate the system we have in Canada, which is science-based and risk-based. I think right now we're bumping into that issue of what is acceptable risk, but some good solid consultation could help that process.

Mr. Lloyd Longfield: Thank you.

I was speaking with the research chair at the University of Guelph on this issue. She gave me access to a public report that HFFA Research did out of the EU, and I referred to it earlier. It showed that the Europeans made a decision, and two years later they're finding out about the impacts of that decision.

The PMRA has such a great global reputation of making good, sound decisions based on science, and we want to protect that, but at the same time we also have an industry that has to survive. Maybe I'm stretching a little bit here, but in terms of balance, how do we bring economics into this discussion?

Mr. Mark Brock: I think there absolutely has to be a value proposition for the chemicals that we use. As I said, no matter what, I could walk out of the hotel I was at and get hit by a bus, but I still decided to come here today. There's a balance of risks that we have to assume. For my farm, those are the decisions I make all the time. I look at something and say, “Economically, is this a valuable decision? Is there economic value for me to do this?” That's where integrated pest management practices come in. Our issue with seed treatments and below-soil strategies is that they aren't quite as intuitive as above-soil strategies, and that's where we have some of these issues and concerns when things like that happen. That's my opinion on that.

Mr. Lloyd Longfield: Thank you.

I'm done. I could keep going all day. I really appreciate all of the witnesses, including the ones who are still here from the previous session. It's a difficult process for us as members of Parliament who aren't active every day in the fields the way some of the witnesses have been, or reading the reports that we need to read as we try to make our decisions in our role.

I really appreciate your coming in and sharing all you have shared with us.

● (1300)

The Chair: I think Mr. Longfield has summed it up quite well. I want to thank the panel for being here. I know we're always in a rush, but you did a great job, and we'll certainly take in your information.

Thank you, Mr. Giovenazzo, Mr. Brock, and Mr. Scarlett, and also the others who stayed for the panel.

The meeting is adjourned.