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Chair: Mr. Kody Blois





# Standing Committee on Agriculture and Agri-Food

Monday, May 30, 2022

• (1100)

[*Translation*]

**The Chair (Mr. Kody Blois (Kings—Hants, Lib.)):** I call this meeting to order.

Hello, everyone. Welcome to meeting No. 21 of the House of Commons Standing Committee on Agriculture and Agri-Food.

I will start with a few reminders.

Today's meeting is taking place in a hybrid format, pursuant to the House Order of November 25, 2021.

The proceedings will be made available via the House of Commons website. So you are aware, the webcast will always show the person speaking, rather than the entirety of the committee.

May I remind you that screenshots or taking photos of your screen is not permitted.

[*English*]

For the folks in the room, we'll continue to abide by the order set by the Board of Internal Economy as it relates to health protocols.

Pursuant to Standing Order 108(2) and the motion adopted by the committee on Monday, January 31, 2022, the committee is resuming its study of the environmental contribution of agriculture. We have a one-hour panel here today before we move to committee business.

In the room, from the Canola Council of Canada, we have Jim Everson, who serves as president. Mr. Everson, it's good to see you here in person.

From the Beef Cattle Research Council, we have Andrea Brocklebank, who serves as the executive director, and Reynold Bergen, who is the science director. Welcome to you both on the line.

From Perennia Food and Agriculture Inc., we have Jennifer Haverstock, who serves as manager of horticulture, and Rosalie Gillis-Madden, technical manager of the on-farm climate action fund. Let me say, as a Nova Scotia MP, thank you to Perennia for all your good work. It's great to see you on the screen.

I'd also like to recognize Mr. Chiang, who is joining us today. Welcome to agriculture. We hope you enjoy your time on our committee.

We have five minutes for opening remarks from each of the parties.

I would ask Ms. Andrea Brocklebank or Mr. Reynold Bergen to start, for five minutes, please.

**Ms. Andrea Brocklebank (Executive Director, Beef Cattle Research Council):** Thank you for the opportunity to present to you today. I'm Andrea Brocklebank, and I'm joined by Dr. Reynold Bergen. We're both with the Beef Cattle Research Council.

The Canadian beef industry is a significant contributor to Canada's environmental goals. Canadian grasslands sequester the carbon emissions from more than three million cars annually, benefit biodiversity and produce high-quality protein from low-quality land and feed that often can't be used by humans. Producing one kilogram of Canadian beef generated 15% less greenhouse gas and used 17% less water in 2011 than 1981. Building on this, the beef industry has set ambitious goals for sustainability for 2030, which include a 33% reduction in greenhouse gas emissions, sequestering 3.4 million more tonnes of carbon annually and preserving the remaining grasslands and ecosystem services they support.

Industry-driven research and innovation are critical to accomplishing these goals. Here are a few examples. Wildfires are destructive to wildlife, humans and the economy, and they release massive amounts of carbon dioxide into the atmosphere. Dr. Fraser's team at Thompson Rivers University is studying how strip logging and integrating forage, cattle and trees can increase both forage and tree growth while reducing wildfire risks. Alternating forage strips increase plant diversity, produce more forage for cattle and wildlife, tend to sequester more carbon and provide a firebreak. The recent documentary *Too Close to Home* demonstrates how cattle are increasingly viewed as a way to reduce the risk of wildfires.

The northern Great Plains is one of the most threatened ecosystems in the world. The Nature Conservancy of Canada estimates that more than 70% of Canada's prairie grasslands have been lost to cultivation, urbanization and development. In Alberta, 83% of the original grassland is gone and in Manitoba, 99% of the tall grass prairie ecosystem is gone. Remaining grasslands survive because of cattle.

An Alberta Biodiversity Monitoring Institute study found that most birds and mammals do just as well or better on cattle pastures as they would in a natural setting. Wildlife need to move and the loss of grasslands destroys their natural corridors. Another study is revealing how continued conversion of pasture to cropland will slowly squeeze wildlife out of southern and central Alberta until only a narrow corridor remains along the eastern slopes of the Rocky Mountains.

Understanding these impacts is important to inform policies that encourage producers to preserve these ecosystems, which do much more than retain vast amounts of soil carbon.

Industry is also focused on quantifying the environmental benefits of using cattle to upcycle food and feed waste. Increasing feed and forage productivity is further enhancing producer sustainability and carbon sequestration. Feed additives and other animal health technologies are key to increasing productivity while reducing our environmental footprint.

Maintaining this momentum and accelerating future improvements will require investment in research and extension. Innovation is a long game. It requires consistent long-term funding. Our industry understands this and has more than quadrupled our investments in research through the Canadian Beef Cattle Check-off, but government partnership is key.

The federal government has launched several research programs related to the government's climate goals. This is positive, but adding short-term programs with diverse priorities does not compensate for declining investment in long-term applied research. Despite the success of the agriscience clusters, federal funding has been spread across more sectors. Demand has increased but funding has not. Government-to-industry funding ratios have declined, reducing the number of projects industry can support to advance our shared goals.

Current research funding programs are five years or less, but it often takes much longer to reach practical application or a market-ready technology. Short-term projects aren't always easily renewed due to shifting priorities in funding. This significantly impairs the long-term data collection necessary to inform sound environmental programs and policies. Research expertise and infrastructure are also critical. Fiscal pressures mean that universities are not replacing retiring researchers, leaving gaps in our capacity. Core institutional funding for agriculture needs to be rejuvenated to hire researchers and bolster infrastructure.

In closing I would like to summarize. The Canadian beef industry is a significant contributor to Canada's environmental goals, but we need to focus on the maintenance of existing grasslands, appropriate valuation of ecosystem services provided and continuing to enhance the overall sustainability of the industry.

Industry-driven research and innovation are critical to addressing all of these things and achieving the 2030 government and industry goals. This will require more government and industry investment that focuses on research capacity, infrastructure and longer-term consistent program funding.

Thank you.

• (1105)

[*Translation*]

**The Chair:** Thank you, Ms. Brocklebank.

Mr. Everson, you have the floor for five minutes.

[*English*]

**Mr. Jim Everson (President, Canola Council of Canada):** Thank you very much.

Thank you, Mr. Chair and committee, for having the Canola Council here today. My name is Jim Everson. I'm president of the Canola Council of Canada.

The council, as you probably know, encompasses all aspects of the value chain—all the growers of canola, the processors, exporters and others. They work together to grow the industry. The industry is worth \$30 billion to the Canadian economy and is the most valuable field crop that Canadian farmers produce.

Let me start by saying that any discussion on the environmental contribution of agriculture must take place in the context of recognizing the relationship to the other two legs of the sustainability stool—economic and social—and must also recognize that these are not mutually exclusive but interdependent. Canola and its production systems are part of a healthy agriculture ecosystem that has evolved and continues to evolve to enable biodiversity, to sequester carbon and to produce more canola per acre than ever before. This is reflected as part of our current strategic plan and other efforts that we undertake. Those efforts include recognition of the following.

The first is soil and water health. Soil obviously is an essential resource for agriculture. Preserving topsoil not only helps retain organic matter but also keeps more carbon stored safely in the earth and keeps land fertile, productive and profitable for farmers. As canola has displaced summerfallow on the Prairies and helped enable the adoption of conservation tillage, hundreds of millions of tonnes of topsoil and organic matter are preserved, as are the carbon and nutrients that are stored within.

In addition to benefiting soil and water health, canola also helps reduce greenhouse gas emissions. Thanks to its potential for carbon sequestration, agriculture was deemed to be the economic sector with the greatest near-term potential to mitigate GHGs by the Intergovernmental Panel on Climate Change's fifth assessment. Responsible farming practices allow Canadian farmers to sequester 11 million tonnes of GHG in their fields each year. Approximately 70% of all carbon sequestered by Canadian field crops is due to canola.

As we look to increase yields and build our productivity in line with our strategic plan, canola has the potential to capture and sequester significant additional carbon moving forward. This is a prime example of the economy and the environment going hand in hand. Land use efficiency is all about generating more food from the same amount of land that is already being farmed. By adopting leading-edge genetic traits, including herbicide tolerance and disease resistance, as well as innovations in crop protection and nutrient management, Canadian farmers are able to produce more canola per acre while maintaining the same farmland footprint. In fact, the canola industry has a goal of reducing the amount of land required to produce one tonne of canola by 40%.

We're also reducing energy use through innovations in machinery and agronomic practices, and protecting biodiversity where there's a range of really beneficial insects within the canola canopy. As an innovative and forward-looking industry, we recognize that new innovations will provide us with the opportunity to produce canola even more sustainably in the future.

New innovations and policy developments have also positioned Canadian canola as a major climate solutions provider for other sectors of the economy as well. With the development and finalization of the clean fuel regulations by the government here in Canada almost complete, there is a significant opportunity for canola to be a feedstock of choice for Canada's biofuels market, which will help reduce emissions in the transportation sector, the most GHG-intensive sector of our economy. Doing so will both reduce emissions and help cement Canada's position in the processing and renewable fuels space.

That said, a number of considerations must inform our ongoing efforts and work.

First among those is recognition that demand signals for canola seed, oil and meal are very strong for the foreseeable future. Accordingly, while we remain committed to doing even more, the reality is that the world wants and needs more canola. We need growers, industry and government to work in partnership to meet the food and energy security objectives while also reducing and continually improving performance on environmental objectives. We must also recognize that while farming practices are an important component of those emission reduction efforts, they can only go so far.

Second, partnership should focus on smart investment and incentives, not regulating away the production tools that farmers rely on, such as fertilizer and safe, highly regulated crop protection products. Like in all sectors of the Canadian economy, the shift to a net-zero carbon economy in agriculture is a major transformation. Canadian growers need to be supported on this journey, not disadvantaged.

- (1110)

Third, recognize that Canada's grain and oilseeds sector is dependent on maintaining competitiveness in global markets. Ninety per cent of Canadian canola production goes to export. As Canada takes steps to improve environmental outcomes, we need to do so without adding costs that render our top-quality products less competitive.

Thank you, Mr. Chair. I see you nodding at me, so I'll move on and allow the next speaker to speak.

[*Translation*]

**The Chair:** Thank you very much, Mr. Everson.

I now invite Ms. Haverstock or Ms. Gillis-Madden to take the floor for five minutes please.

[*English*]

**Ms. Jennifer Haverstock (Manager, Horticulture, Perennia Food and Agriculture Inc.):** Good morning, Mr. Blois and committee members. Thank you for the invitation to appear today.

Perennia Food and Agriculture is a provincial development agency with the mission to support growth, transformation and economic development in Nova Scotia's agriculture, seafood and food and beverage sectors. Applied practical solutions and sharing information with farmers in the fields, in their barns and in their greenhouses is one of the key ways we fulfill this mission.

As mentioned, I'm Jennifer Haverstock. I'm a certified crop adviser and professional agrologist. I started with Perennia as a small fruit specialist six years ago, and I'm now the manager of horticulture.

With me today is Rosalie Gillis-Madden, also a certified crop adviser and professional agrologist, who has been Perennia's vegetable specialist for the past seven years. Recently, Perennia was selected to be a delivery partner for the federal on-farm climate action fund in Nova Scotia and Newfoundland and Labrador. Rosalie has taken on a new role within Perennia as technical project manager for that program.

I want to acknowledge today that I join you from the beautiful Annapolis Valley of Nova Scotia, located in the traditional land and unceded territory of the Mi'kmaq people, who have stewarded this land for centuries.

The knowledge and passion of Perennia's 25-member agriculture team is laser-focused on sustaining and advancing our farms. We're able to do this work because of our province's commitment to supporting our farming industry for the past 20 years. We answer producer technical questions, work with them to develop integrated management strategies, test new production methods and crop varieties and provide education and training to farmers across the province. We also play a key role as a two-way bridge between government and industry on agricultural production challenges and opportunities.

Atlantic Canada is unique, with humid conditions, acidic soils and numerous microclimates. We have a diverse mixed-farming landscape where it's very common to see a large-scale poultry operation next to a vineyard and next to a small vegetable farm. Nova Scotia's farmers have made the most of our climate and land resources. Areas of fertile land support a vibrant horticulture industry. Wild blueberries flourish on marginal lands and less arable land is often ideally suited for forage and livestock.

Nova Scotia's farmers are concerned about the environment and want to adopt practices that can help them to be more resilient in the face of climate change. Rising costs of everything from feed to fertilizer to fuel can make it hard for farmers to invest in these new sustainable farming practices.

Producers are stewards of the land, and they're business people, too, and Perennia specialists have worked hard to help producers understand how beneficial management practices can provide both environmental and economic sustainability. We have worked hard to share the message that improved nutrient management means that applied fertility goes directly to feeding the crop, giving farmers more return on their dollar. It also reduces greenhouse gas emissions and leaching to the environment.

We demonstrate to growers how cover cropping goes beyond the environmental benefit of sequestering carbon. It improves soil health, builds resilience, provides erosion control and improves water-holding capacity. Our specialists also work with growers to implement rotational grazing plans, which result in improved forage quality and reduced methane emissions from cattle and contribute to more resilient pastures and better livestock health overall.

While strides have been made to adapt to climate change through on-farm research, field tests of integrated management approaches and developing new technology tools for on-farm use, there is still much work to do.

For Nova Scotia farmers to mitigate and adapt to climate change, consideration should be given to the unique conditions our producers are facing, and here's what they need: policies and programs targeted to Atlantic Canada that make it easier for farms to invest in sustainable production practices; new investment in technologies that guide daily decisions on production and inputs; and continued access to on-call extension services and regionally specific research and advice.

It has been shown that the adoption of beneficial management practices increases when farmers understand the principles and have seen the practices implemented on their neighbour's farm and when the economic benefits are clear. That's what we're striving to

do at Perennia. Enabling informed decision-making is at the heart of the research and extension services we provide to Nova Scotian farmers and is a key to a sustainable agriculture industry.

We look forward to continuing to work with government, industry organizations and producers to ensure that the agriculture industry is recognized and supported in the face of the changing climate and to ensure sustainable food security. The agriculture sector plays a significant role as an environmental steward.

Thank you for your time today.

● (1115)

**The Chair:** Thank you, Ms. Haverstock and Ms. Gillis-Madden.

We'll turn to questions now, but I want to recognize that Ms. Valdez has signalled to me that we have some interns from the Canada-Philippine internship program. They're at the back of the room taking in some of the proceedings today.

Welcome to the Hill and welcome to the agriculture committee.

We're going to start. For six minutes, Mr. Barlow, you have the floor.

**Mr. John Barlow (Foothills, CPC):** Thank you very much, Mr. Chair.

Welcome to our interns. I hope you're getting something out of this today.

I want to start with Ms. Brocklebank and Mr. Bergen. Thanks very much for being here today.

You were talking about some of the innovation and technology that the cattle industry is undertaking. One program that we've talked about at committee before is the 3-NOP food additive, which has been approved in the United States for use, and even the EU, but it seems to be taking an exorbitant amount of time here in Canada. It seems to be because we're treating it very differently in how we're analyzing its use.

From my understanding, it's been tested—Ms. Brocklebank, probably very much to your knowledge—in feedlots in southern Alberta. It can reduce methane emissions by up to 80%. What kind of a difference would it make to this industry to have this approved as soon as possible, and in use in Canada?

**Ms. Andrea Brocklebank:** To confirm, I think it's a 30% reduction in greenhouse gas emissions. Is that correct, Reynold?

**Dr. Reynold Bergen (Science Director, Beef Cattle Research Council):** It depends a lot on the diet, but it's at least 30% and up to 80% in some cases.

**Ms. Andrea Brocklebank:** One of the things we've been looking at as an industry is feed additives. One of the lowest-hanging fruit, I'd say, is 3-NOP, which has been approved in some South American countries and other countries, primarily in the dairy industry to start, but also beef.

We see potential for it, and one of the things that we really recommend government look at is timely approval processes. Canada is a smaller market in many cases, and some of these new products coming in need to come in under an environmental claim, because they aren't an animal health product or a feed product. They are there strictly to reduce environmental emissions.

Streamlining our approval process to encourage these companies to apply—because it's quite a costly process to go through—is really important, because we have done research in Canada related to these things.

The other thing to point out, though, is that some of these additives coming in, while they have significant benefit from an environmental standpoint, they don't necessarily have a benefit from a production standpoint. How to incentivize producers who have faced a lot of challenges in recent years, with droughts and rising costs, to adopt these when there isn't a direct benefit to their operation is something we really need to work on with the government. While it is definitely beneficial, and our producers are focused on that, right now they're focused on survival with the rising costs and the drought situation. Much of our Prairies at this point are flooding, and in other areas.

• (1120)

**Mr. John Barlow:** Thanks, Ms. Brocklebank. I appreciate that.

We've had a chance to talk about the *Guardians of the Grasslands* documentary in the past as well. It provides some really good information.

One of the things I found, looking at that documentary, was that there was an experiment gone wrong when you removed cattle, as an example. I think it was from Cypress Hills in Saskatchewan. We still hear this message that a way to reduce emissions is to end the animal livestock industry and eat less meat. Can you talk about what happened when cattle were removed from some grasslands and grazing?

We talk about the grasslands being home to 60 species at risk. They're one of the most endangered ecosystems on the planet. Can you talk about what the grazing does to the health of the land in those grasslands, specifically?

**Dr. Reynold Bergen:** Yes, certainly. I can take a shot at this one.

There are a couple of things that happen, and we haven't seen them exclusively in that area. We've also seen them across the line in Alberta, when Agriculture Canada left the Onefour research site and cattle came off there. One of the big concerns was that, without cattle to remove the forage, the forage builds up and the risk of prairie fires greatly increases. This was a major concern for the neighbourhood there. The risk of fire buildup is one of the big concerns, which relates back to Andrea's earlier comments about the fire suppression in B.C. and the role that cattle can play there.

The other thing is that species adapt to their environment and, as the environment changes, different species predominate and other species move out. To your point, we've seen that some of the range that is preferred by some very threatened species—burrowing owls, pronghorn antelope and all the rest of them—don't thrive in the absence of grazing, because they need the grass taken down so they can see their predators. When the grass has grown high, the predators can sneak up and eat the burrowing owls. It's just the way things work. There are winners and losers.

**Mr. John Barlow:** Thanks. I appreciate that. I may have time for one last question.

With the new negotiations on CAP, certainly I hope there's going to be a focus on research and innovation. What key areas of research and extension do you think the Beef Cattle Research Council would like to see focused on moving forward?

**Ms. Andrea Brocklebank:** We're getting close to April 1, 2023, so continuity of research programming is pretty important at this point, because gaps in research mean you lose technicians, you lose a lot of students and even annual trials that need to start in spring and all that. Our highest priority is ensuring program renewal. The science clusters program is one of the big programs that matters, but unfortunately, the funding envelope for it hasn't changed over the years, although the number of clusters has increased. That means there are more and more specific rules on what we can apply to for funding.

I will say, in this case with industry funding going in and the pretty clear strategy that we have—and I know other sectors like canola have—we're really working hard to make sure that we cover a breadth of areas, because there are no silver bullets in terms of moving the industry forward. It's a bunch of incremental change.

**The Chair:** Thank you, Ms. Brocklebank.

We are now going to turn to Mr. Turnbull.

I believe you're going to be splitting your time with Ms. Valdez, so I'll try to give you a signal about halfway.

**Mr. Ryan Turnbull (Whitby, Lib.):** Thanks, Chair.

Thanks to all the panellists for being here today.

I really appreciated Ms. Haverstock's opening remarks, and I probably have some questions for Ms. Gillis-Madden.

I appreciated the comments you made, in particular about farmers being stewards of the land and also being business owners. I think we all recognize that there is a large potential for our farm operators to play across all of the various categories to fight climate change, but they've been under considerable pressures in terms of their business model in past years and particularly even more so today.

I'm interested, Ms. Gillis-Madden, in hearing about your experiences helping farmers in Nova Scotia access and utilize the on-farm climate action fund to help them implement new and more sustainable practices. In your experience, what is the interest level among farmers in adopting these practices? Would you say that we're at an early adoption phase, or is the greater farming community eager to adopt these more sustainable practices?

Go ahead, Ms. Gillis-Madden.

• (1125)

**Ms. Rosalie Gillis-Madden (Technical Manager, On-Farm Climate Action Fund, Perennia Food and Agriculture Inc.):** There's definitely lots and lots of interest in producers adopting these best management practices: cover cropping, nitrogen management and rotational grazing.

Many farmers have already started these BMPs, and OFCAF only funds new adopters of the best management practices, so there is some hesitation with existing farmers feeling like they're a little bit left out of the funding program, but there is certainly great interest. It's something we've been promoting at Perennia for years. We're really excited to see funding behind the implementation of some of these practices.

**Mr. Ryan Turnbull:** How do you think the federal government could help speed up the adoption of these new and more sustainable practices?

**Ms. Rosalie Gillis-Madden:** A lot of it comes down to education, I would say. Farmers want to do the right thing, but it's about time, about understanding how time works in their business model and on their farm. We all know that cover crops are great, for example, but how do you work it into your crop rotation? When can you seed it? How late can you seed it? What's the seeding rate? How much residue can you plant into? Some of that really practical stuff is what farmers need to see in action to further their cover-cropping goals.

**Mr. Ryan Turnbull:** Thank you for that, and I appreciated the comment made about your organization and role in helping promote informed decision-making. I think that's what you're talking about.

I have one quick question. Would you count the services that you provide as an intermediary as transition advisory services? Could you speak very briefly to the importance of those?

**Ms. Rosalie Gillis-Madden:** I'm not sure I understand the question. What do you mean by transitional advisory services?

**Mr. Ryan Turnbull:** We've heard from other witnesses, in particular Rod MacRae, who came before this committee and talked about how some farm operators need advisory services to implement some of the research and make a better-informed decision. I was taking it, based on Ms. Haverstock's opening remarks, that it is, in fact, what Perennia is doing in Nova Scotia. I just wondered if you could speak to the importance of that.

**Ms. Rosalie Gillis-Madden:** Yes, that is indeed what Perennia does. We work with producers to implement best management practices on all sorts of things but definitely on these environmental BMPs, and we're figuring out how it works best for their farms and their business models.

**Mr. Ryan Turnbull:** Thank you, Chair. I'll turn my time over to Ms. Valdez.

**Mrs. Rechie Valdez (Mississauga—Streetsville, Lib.):** Thank you to the witnesses for joining us today.

My questions are for Mr. Everson.

Your organization advocates for the use of canola-based biofuels. Could you explain some of those benefits to us today and how they can be used in agriculture?

**Mr. Jim Everson:** Yes. Thank you for the question.

Canola is essentially a low-carbon product. It has been used in biofuels in Canada, Europe and the United States for a number of years. It has the potential to be modified into diesel fuel. The oil is modified into diesel fuel and mixed with diesel fuel. Over the course of the last decade or so, canola has been used in that way in those countries.

The U.S. Environmental Protection Agency, for example, just finished a review of canola for use in the renewable fuel sector in the United States and found that canola oil can reduce GHG emissions—compared to traditional transportation diesel, petroleum-based transportation diesel—by between 60% and 70%. That's a science-based organization in the United States, a regulator, that has come to that choice.

As Canada and other countries focus on GHG emissions and look for output-based, easy-to-implement and quick-to-implement strategies to reduce GHG emissions, canola can be used that way in the transportation diesel system.

**Mrs. Rechie Valdez:** Thank you.

Can you explain how we can make it more widely available? I'm not sure how available it is to use right now.

**Mr. Jim Everson:** I think Canada is on a road to do that. The Canadian government has a clean fuel regulation that's coming forward, and what it would do is create an incentive for diesel retailers to use the lowest-carbon feedstock that's available to them. Canola is one of those, and there are a number of other feedstocks that can also be used. Other countries are following the same path.

We're very thankful that the Government of Canada is moving forward with the clean fuel regulation, because it helps not only to reduce GHG emissions but also to diversify our industry away from volatile export markets.

• (1130)

**Mrs. Rechie Valdez:** That's perfect. Thank you.

[*Translation*]

**The Chair:** Thank you very much, Ms. Valdez and Mr. Everson.

Mr. Perron, you have the floor for six minutes.



**Mr. Yves Perron (Berthier—Maskinongé, BQ):** Thank you very much, Mr. Chair.

First, I want to thank the witnesses for being with us today.

I have a question for the representatives of Perennia Food and Agriculture Inc. Perhaps Ms. Haverstock could answer.

If I understand correctly, your organization serves as an intermediary between the government and farmers, providing advice in relation to the on-farm climate action fund. I believe strongly in decentralization, because each farm is effectively a business, and the person best placed to know when to invest is the farmer himself.

For the future, what would you recommend to the government in terms of assistance programs to encourage people to adopt good agricultural practices?

[English]

**Ms. Jennifer Haverstock:** Thank you for the question.

I just want to be clear that I caught the entire thing. You were asking about the potential programming that we would recommend to government. Is that correct?

[Translation]

**Mr. Yves Perron:** Well, I stressed the importance of decentralizing funding so there is not just a single program for farm businesses across Canada. In your remarks earlier, you mentioned that the realities in Atlantic Canada are not the same as those in western Canada or in Quebec.

Can you make a recommendation to ensure that the greatest possible decision-making power is on the ground?

[English]

**Ms. Jennifer Haverstock:** I would start by recommending that, at the beginning of the development of any policy or program, regions be consulted and that there's consultation done both at organizations such as ours as well as with industry to ensure that the programs are on point for the region or the sector that they're intended for.

For example, in Nova Scotia, some of the issues we have that may not be the same as those in other parts of Canada are related to the fact that we have very acidic soils. Liming is a key facet for improving fertilizer use. Making sure the money that producers are investing in fertilizer is essentially getting the best bang for their buck means making sure that the pH is at a level that nitrogen use efficiency can be used to the best of its ability.

Some other examples could be that in Atlantic Canada we have a range of climates, much like other parts of Canada, but one of the things we have been dealing with as a result of climate change is that, because of having waterlogged soils, we actually end up seeing a lot of denitrification and nitrous oxide emissions. It's a powerful greenhouse gas.

For example, considering that this is something that occurs in Nova Scotia, one of the programs may look at funding something such as controlled drainage. That would allow producers to readily drain their fields when there are high levels of rain or precipitation. The opportunity for installing structures such as these, like con-

trolled drainage, means that in times of drought, which we are seeing more and more in Atlantic Canada and in Nova Scotia, we actually can use these structures to increase the water level in soils and make the most use of irrigation practices as well as precipitation.

[Translation]

**Mr. Yves Perron:** If we create a program that rewards good farming practices, do you think it should recognize what farmers have already done?

Many farmers have been pioneers in their field. If we create an incentive for new practices, what can we do for those who adopted those practices a number of years ago? It has to be fair.

● (1135)

[English]

**Ms. Jennifer Haverstock:** I'm actually going to see if Rosalie would like to field this question.

**Ms. Rosalie Gillis-Madden:** Sure.

Compensating farmers for ecosystem services, such as sequestering carbon, is something other parts of the world are doing. I definitely see that there's great opportunity for Canada to support producers to continue doing good environmental stewardship on their farms.

[Translation]

**Mr. Yves Perron:** Okay, thank you very much.

My question is for the representatives from the Beef Cattle Research Council.

You talked about the importance of pastures for carbon capture, the preservation of threatened species, and so forth. You also talked about methane emissions from cattle.

How beneficial would it be to keep the cattle pastures? Do you have any figures to share in that regard?

[English]

**Ms. Andrea Brocklebank:** I think what we understand is that we continue to focus on reducing our greenhouse gas emissions. We've seen reduction over the last 30 years and we've set a goal for 2030 to continue to make a 33% reduction in those emissions. A lot of that comes from our increasing productivity of our grasslands, so we can produce more beef using fewer acres but also less time. That means fewer emissions and less water usage. When we do that, when we increase productivity in our grasslands through management, through improvement, through forage seeding and those types of things, we also increase opportunities for carbon sequestration.

It's not one size fits all. There are trade-offs. We recognize that we need to continue to work on the areas in which we see challenges, which means our emissions, but we also have the opportunity to increase our carbon sequestration and to maintain those wildlife habitats and biodiversity areas.

Another thing to point out is that we use a lot of marginal areas that shouldn't be used for crop production or can't be. We're producing a high-quality protein using this land, but also making sure it's maintained in a healthy way for wildlife and other benefits like carbon sequestration, which I think is one thing we view that should be complementary to other sectors, such as crops.

[*Translation*]

**The Chair:** Thank you very much, Ms. Brocklebank and Mr. Perron. I added a few seconds to your speaking time because of the interpretation delays.

Mr. MacGregor, you have the floor for six minutes.

[*English*]

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

Mr. Everson, I'd like to continue with the conversation on biofuels. I think another thing to add is that, not only are the emissions lower when you compare biofuels to traditional diesel but it's also a "carbon-neutral" fuel. Fossil fuels are emitting carbon that was stored millions of years ago, whereas canola is using carbon that comes through the natural plant process of growing.

I think diesel in Canada is currently required to be at 2% biofuel. I have a biofuel co-op in my riding. They offer B20, B50 and B100 blends. Given the realities of climate change, why are we not being more ambitious?

**Mr. Jim Everson:** I think the federal mandate is 2%. Provinces have different mandates. In B.C., I think the level is higher, and across Canada you'll find the level higher. It's much higher in Quebec also. There are different processes there. I think it's a good question. I think the GHG reduction possibilities by using plant-based oilseeds are really very valuable.

**Mr. Alistair MacGregor:** For my very small farming property, my wife and I bought an older model diesel truck because we found when we were doing our research that actually the older models—we got a 2002—of diesel engines were better able to handle higher blends, like B100, than the newer models are. It had to do with the fuel injectors. They tend to get clogged.

What kinds of conversations are we having with vehicle manufacturers so that their engines can actually adapt to higher blends? Is that something the Canola Council of Canada is involved in or something we need to push a little more?

**Mr. Jim Everson:** They're very advanced. In terms of the mandates we're dealing with in Canada, the United States and Europe, all the manufacturers of farm equipment indicate that their equipment is fine managing at the levels we're at.

Canola is good for your health. It's the healthiest oil, I think, for human consumption in the marketplace, we say, but it's also good for your injectors. It's very clean. That's why it's good from a biofuels point of view.

• (1140)

**Mr. Alistair MacGregor:** If we are going to be ambitious, if we're going to make some recommendations in this committee report, what is the capacity of the industry? How much time do you need to scale up to the ambitions we need to have?

I know you had a recent victory with our overseas market in China, and there are a lot of competing priorities for the canola industry, but you've indicated that the growth signals are very strong. If we are to set really ambitious targets incorporating biofuels and trying to phase out fossil fuel use, how quickly can the canola industry in Canada respond?

**Mr. Jim Everson:** I think the regulations will create an incentive to grow the industry. Canola is in a good position because of its scalability. It's a major crop. It's a very mature crop, and farmers are used to working with it and so on.

The other products are oil left over from rendering cattle and used cooking oil and so on that's collected from restaurants, and those are by-products of other practices that take place. They're not able to scale up the way canola or soybeans are able to do as an industry. I think the demand signals that are being created, as with the Canadian fuel regulation, will do that.

There was some mention earlier on about the CAP program and the cluster program, especially the science cluster program. I think it's that part of the agenda that's really important—making sure there's no delay in continuing those innovative programs that are looking for agronomic solutions for growers, as well as regulatory approval and ensuring that we have quick regulatory approval and science-based regulations and policy. Those kinds of framework pieces, I think, will work in concert with the mandates that have been put in place for biofuels and other areas.

The Canola Council is also a delivery agent for the on-farm climate action fund, and we're focused on nitrogen use, the precise use of nitrogen.

Those programs are also incentivized by having regulations in place, whereby we ensure we have market access in global markets so that farmers are not set back by market-access issues that come up from time to time, and that we have regulatory approval that's swift and so on. That would complement the incentive programs that are being put in place.

**Mr. Alistair MacGregor:** Finally, I've been looking abroad to see examples around the world of countries that are really getting quite active in their agricultural fields vis-à-vis climate change. For example, France is very heavily invested in developing agroforestry and silvopasture. Australia has launched a national soil strategy because their soils are very old and very prone to erosion. I think we've all seen the examples of what climate change is doing to Australia with the wildfires and horrible floods.

Looking at those examples, do you think Canada, the federal government, should be doing more to push those kinds of strategies here? Do you have any thoughts on that?

**Mr. Jim Everson:** I think Canada is doing a great deal through the on-farm climate action program and through setting a target for emissions reductions and nitrogen use, which is really important for our industry since our industry relies very heavily on nitrogen use in canola. That's a challenging issue for us along with the other areas we talked about.

I think Canada has a very progressive sustainability and climate change program in place. I think we need to be sure that, while we're going through that approach, we're also ensuring that other countries are as proactive, because we are competing with other countries. When Canada puts in place a carbon tax, it adds costs for a grower. We have to be sure that we can be competitive in international markets while we're implementing these practices to make our agriculture greener.

**The Chair:** Thank you, Mr. Everson.

Thank you, Mr. MacGregor.

We'll go to our second round of questioning with Mr. Falk for five minutes.

Over to you.

**Mr. Ted Falk (Provencher, CPC):** Thank you, Mr. Chair.

Thank you to all our witnesses this morning. Your presentations have been very interesting.

I would like to ask the Beef Cattle Research Council some questions, just following up on your presentation. You indicated that by 2030 you are aiming for a further 33% reduction in greenhouse gas emissions. Could you also provide us with the amount of increased production you expect as a target for 2030? Also, how do you expect to get there?

**Ms. Andrea Brocklebank:** I can't recall the increase in production. A lot of our focus is on a fairly steady state in terms of the 33% reduction and keeping our cattle herds steady. That being said, whether we can increase our production per animal has been our focus, and we've continued to be able to do that, as you've seen over the last two decades.

In terms of how we achieve that 33% reduction, a lot of our focus is on feed additives and looking at opportunities there. The 3-NOP that was mentioned is one of the highest priorities, but there are other ones that we're looking at.

We're also looking at opportunities for research and extension. Technology transfer extension is one of the keys that we see in getting producer adoption of beneficial practices, adoption of new technologies, new forage varieties, feed varieties and those types of things.

The other key area that we are focused on is utilizing food waste and feed waste from other sectors. We have been able to incorporate a lot of different food waste recently from all sectors along the supply chain, as well as from our crop partners, where we're consuming by-products. This is an opportunity for us to use stuff that otherwise wouldn't be usable because, fortunately, cattle can eat a lot of different things.

• (1145)

**Mr. Ted Falk:** In that vein a bit, you've talked about the importance of grasslands and, especially, marginal lands that cattle can take significant advantage of and produce a high-quality protein.

Based on 160 acres of grassland, compared to 160 acres of alfalfa, can you briefly tell us the difference in the number of cattle that that can support?

**Ms. Andrea Brocklebank:** No, I can't, because it varies so much across the country. To the point made previously by some of the presenters, what we can produce in an area like southern Alberta versus what we can produce in the rocky hills of B.C. or in eastern Canada varies significantly. That's why these programs, as mentioned before, need to be very adaptable.

Across the country, if we look at the 60,000 beef farms that we have, each production system is adjusted to their area, their ecosystem and the land, but also the intensity. That's really dependent on moisture and soil quality.

What I would say, though, is that producers want to be sustainable, because they want to pass on their operations to the next generation. There's a lot of focus on using the land that can't be used for crop production, so it's not always a direct comparison.

**Mr. Ted Falk:** That's good. Thanks.

Mr. Everson, I'd like to key in on some of the comments you made. You talked about how farmers can't be regulated out of business and should be supported, not disadvantaged.

When we look at the impact that carbon taxes have had and the proposed fertilizer regulations.... You've briefly touched on that, but can you extrapolate a bit more what impact that's going to have on your sector?

**Mr. Jim Everson:** The important thing, and the message I was trying to get across, is around the incentives to go forward. Look at how to enable the producer to make a difference and how to support that producer going forward. There was talk just a moment ago about how to do that.

To Mr. Perron's question about helping growers who are already proactive, I think sustainability is not a destination. It's a continuous effort. You might be more proactive than your neighbour, but you should still be supported to try to move that to the next stage and to make the investments that are necessary to move forward. I see a number of programs coming together to help the producer move ahead.

In the case of nitrogen in fertilizer use, we have a strategic plan in our industry to grow the production of canola to meet global demand and to do it on the existing acreage we have by increasing our yields. That requires more nitrogen. It doesn't mean that you can't at the same time reduce nitrogen emissions. What we're going to do in partnership with the government is reduce emissions, but not at the cost of regulating a farmer's use of nitrogen on their canola.

Instead—

**Mr. Ted Falk:** Do you have that commitment from the government?

**Mr. Jim Everson:** Instead, through the OFCAF program, what we hope to do—

**The Chair:** Mr. Everson, I apologize. We're at time. I'll give you 15 seconds. I want to make sure we can get that in. I'm not trying to cut you off.

**Mr. Jim Everson:** We want to be sure the producers have all the tools they need to more precisely use nitrogen, so that they can use it more wisely on their farm, reduce its overall use and reduce emissions.

**The Chair:** Thank you, Mr. Falk.

Thank you, Mr. Everson.

We have Mr. Drouin for five minutes.

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

Thanks to the witnesses for being here.

My first question would be to Ms. Haverstock with regard to my colleague Mr. Barlow's question. With 3-NOP and DSM—I didn't hear you correctly—did you say they applied or they haven't applied yet to Canada, or you're not sure at all?

• (1150)

**Dr. Reynold Bergen:** I think that question's for the BCRC possibly, but excuse me, Ms. Haverstock, if you would prefer to answer.

My understanding is that DSM has not yet applied for approval in Canada. We understand that part of this is that Canada is a small market, but also, one of the big issues is that clarity as to the regulatory process is a huge priority for these companies when they're deciding which markets to pursue.

**Mr. Francis Drouin:** Do we know if they have the capacity to provide that across all the jurisdictions that they've recently been approved in? Does this come directly from DSM? I will approach them.

**Dr. Reynold Bergen:** Yes, what I said came directly from what DSM's representative said in a meeting I think last week or the week before. I do know they're also expanding their production capacity globally and developing some partnerships that will allow them to increase the supply to hopefully meet demand.

**Mr. Francis Drouin:** Thank you. I will approach them.

Mr. Everson, obviously at the Canola Council you're representing the larger facts of the canola industry, and you've talked about ways that canola can sequester carbon. Do you think that more can be done in your sector? Are you working directly with universities on that?

**Mr. Jim Everson:** Yes, very much, and more can be done.

As I say, the plant sequesters carbon and it's a good thing. It takes carbon dioxide from the air and uses it to make food, which is a great dynamic. If we can increase our yields, we can sequester more carbon on the same acre of land, so I think the answer to that then goes back to what we've been talking about around innovation and making sure that we have an innovative economy focused on agriculture. It's regulatory approvals; clear regulatory objectives with plant breeding innovation, for example; clear, science-based

rules at the pest management review agency so that people can invest with confidence; and innovation around agronomic work, the science cluster program and continued investment in producing new ways of meeting global demand at the same time as dealing with environmental considerations.

**Mr. Francis Drouin:** I've spoken to Mr. Harper—not the Mr. Harper but I would say he's the Mr. Harper of the industry—and he was talking about costs of adapting precision agriculture on farm. It can be almost half a million to close to a million dollars. Is that something that you would see as favourable for government to continue to partner with farmers if we're asking them to adapt technologies that can lower their carbon emissions or lower their emissions, as you talked about, from fertilizers?

For example, we know that there's technology that exists where you can input fertilizer directly in the ground, which would save the emissions off the fertilizers. Is that something you see as favourable?

**Mr. Jim Everson:** I think it's absolutely the right thing to do. There's a whole continuum of producers out there. There are some who really haven't done much in the way of soil testing, so you can incentivize them to do soil testing, do a map of their farm and make the right decisions about nitrogen. That's really inexpensive to do. Then there are the farmers who have been more proactive and have done some of these things, and now in order to continue their variable rate 4R practices on their farm, they need to really invest in new machinery, which starts to get into very big dollars, but I think they're also the growers who are showing the industry and other growers the way to go.

I think it's all about having a regulatory environment that's favourable to innovation and incentivizing growers to move in the right direction, because as one of the other witnesses said today, they want to be sustainable, they want to pass on farms to their children in better shape than they got them, and incentives allow them to move in that direction.

**The Chair:** You have 10 seconds.

You're good, but you're not that good, so we'll go right to Mr. Perron, please, for two and a half minutes.

[*Translation*]

**Mr. Yves Perron:** Thank you, Mr. Chair.

Mr. Everson, I will continue on from your previous answers. You said it is important to encourage people who already have good practices. With regard to the latest genetics, among other things, you said that there should not be too much regulation. A bit later on, you said that effective, science-based regulation is needed.

So you are telling the committee that it is not a question of removing all regulation, but rather having regulation that is effective and based on science. Is that correct?

• (1155)

[English]

**Mr. Jim Everson:** Absolutely, and I think the public wants to be sure that there is strong regulation and that our institutions like the Canadian Food Inspection Agency and the pest management review agency are left to make science-based decisions on our behalf.

It's not about not having regulation. It's about having smart regulation and regulation that adapts to a changing environment quickly while at the same time ensures the safety and efficacy of products.

[Translation]

**Mr. Yves Perron:** Thank you very much.

Since you were talking about the public, do you think there should be labelling to inform the public that new types of seeds are being used?

[English]

**Mr. Jim Everson:** I think what we need to do is to be sure that we have transparency so that manufacturers are able to register their products in a place where everybody is able to see what the key aspects, key characteristics, of those products are. That way everybody's informed about what the products are.

This could be through a labelling of the product or just through the regulatory process so that a consumer can find out. As new seed innovations come forward, Health Canada is working on a new policy there, and one of the aspects of that is transparency, being sure that people and companies that bring their products forward register them and make clear the process that was used to create the seed.

[Translation]

**Mr. Yves Perron:** Thank you.

**The Chair:** Thank you, Mr. Perron and Mr. Everson.

Mr. MacGregor, you have the floor.

[English]

**Mr. Alistair MacGregor:** Thank you, Mr. Chair.

I think, for this intervention, I'd like to turn to the Beef Cattle Research Council.

In your opening remarks, you spoke about what you called strip forestry, forestry that was mixed with cattle. In a previous life, I was a tree planter. I planted throughout British Columbia, and one of the notable places I planted was in the Douglas Lake ranch, where we had to pay particular attention to cattle coming through, and we had to plant our trees close to obstacles so that the cattle wouldn't come through.

I mentioned France. France has some amazing examples of agro-forestry, where they allow sheep and cattle to come through mature woodlands. Sometimes they pair that with other animals. It's just about getting the land producing multiple, different things and serving many different functions.

Could you expand on some of the stuff that you're working on here in Canada? If there are such beneficial effects, what could we as a committee recommend to help make that practice more widespread?

**Dr. Reynold Bergen:** Certainly, I can answer your question.

That project that Andrea is referring to is one that was funded under the beef science cluster, the current one, which means that the project started in 2018, which means we have four years' worth of data on it.

All of these changes, whether environmental or differences in tree growth, take a long time, so I think one of the real take-home messages from this is that, sometimes, to get answers to research questions, you need a long time.

The benefits that we're seeing in terms of the tree growth here are really because we're leaving a big wide strip between trees so that more sun can get at the trees, and more sun can also get at the forage at the same time so that there's win-win-win for the trees, for the cattle and for the environment.

Does that answer your question?

**Mr. Alistair MacGregor:** Sure, and what more do you want to see from the federal government to encourage those types of practices?

**Dr. Reynold Bergen:** Getting back to Andrea's earlier point around the duration of research funding, five-year funding windows really deter research projects like this that take 20 years to come up with an answer.

**Mr. Alistair MacGregor:** Thank you.

**The Chair:** Thank you, Mr. MacGregor. We're at time.

I'm just going to ask one quick question of Ms. Haverstock, given my connection to the Annapolis Valley, and thank you for pointing out our beautiful valley.

I have two questions about controlled environment agriculture. You deal with the horticulture sector. I'm thinking about places like Den Haan, Nova Agri and Vermeulen that have different variations of those types of controlled-environment agriculture operations.

Do you see that as an important pathway in the future for the production of food?

Second, does the Government of Canada have a responsibility or a role in that, or is it best funded through the private sector, and there's available capital there?

• (1200)

**Ms. Jennifer Haverstock:** It's a great question. Thank you very much.

I would say that in Nova Scotia, and generally across Canada really, the future of food is definitely looking towards protected or controlled environment agriculture, especially in the horticulture sector, in order to achieve food security. Some of the investment that's been made regionally in the last little bit has been towards that shift.

I think one thing that has really helped move that forward—again, there's a lot of interest here—is the fact that government has supported industry, and some field producers, let's say, to make the shift into controlled environment agriculture because they have support from government in making that shift. Some of it could be through subsidization, but another important component of that, through this programming, has been the fact that they've had local research and they've also had local extension support in making that shift. It really helps to demystify and make them feel supported in making such a huge investment to forward their industry.

**The Chair:** Thank you very much.

I'm looking at the member of Parliament from Leamington, who is no stranger to controlled environment agriculture.

Thank you so much to all the witnesses. Thank you for your leadership in your respective roles vis-à-vis agriculture, and thank you for being with us here today. Enjoy your afternoon.

Committee members, we'll take a two-minute hiatus and then come back for some committee business in camera.

*[Proceedings continue in camera]*

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