Show Transcript
Deconstructing Dinner
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Title: Canada's Agriculture & Agri-Food Committee on GMOs

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Jon Steinman: And welcome to Deconstructing Dinner, a syndicated weekly radio show and Podcast produced in Nelson, British Columbia at Kootenay Co-op Radio CJLY. I'm Jon Steinman, your host for the next hour.

Today we continue with our ongoing coverage on the controversial subject of GMOs (genetically modified organisms) or, as we often refer to them here on the show, genetically engineered (or GE) foods. Our intensive coverage on the subject has *in part* been *because* of the controversy surrounding GMOs, but has more to do with the many underlying and overarching food security concerns that the subject itself helps shed light on.

As part of our past coverage on the subject, we've spent some time looking at how dialogue on GMOs makes its way through the government of Canada, whether it be the regulatory process itself for approving GMOs, or debates heard from our House of Commons on the subject.

On today's episode, we listen in on two meetings of Canada's Standing Committee on Agriculture and Agri-Food, who invited panels of experts on the subject to share *their* thoughts and opinions on GMOs with members of the Committee, all of whom are elected Members of Parliament.

Of those experts we'll hear today are some familiar voices to the show, Terry Boehm of the National Farmers Union; Devlin Kuyek of the Canadian Biotechnology Action Network; Peter Andrée of Carleton University; Gord Surgeoner of Ontario Agri-Food Technologies; and Michel Arnold of Option Consommateurs.

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In April and May 2008, Deconstructing Dinner aired an investigative look into Bill C-517 – a private member's bill calling for the mandatory labelling of foods containing genetically engineered ingredients, or GMOs. Around the world, entire continents like Europe and many other countries require all foods containing GMOs to be labelled.

In light of that and public demand here in Canada for similar regulations, Bill C-517 was debated in Canada's House of Commons in April and May of last year. And while the proposed bill was negated by a vote of 156-101, it was the information shared throughout the debate that caught the attention of Deconstructing Dinner. And in particular, as any of you who heard those episodes might recall, we recorded Conservative Party Member of Parliament Rob Merrifield indicating to his fellow MPs and Canadians that, as a farmer himself growing GE crops, he was not concerned with any of the environmental cross-contamination concerns because GE crops, as Merrifield insisted, contained a "terminator" gene that prevented the plant from sprouting the following year. Now this information was entirely false, as nowhere in the world have terminator genes (also known by industry as genetic use restriction technologies) been approved for use - nowhere.

And while we as Canadians might like to think that such misinformation was just an isolated incident, clearly there is a prevailing perception among our elected officials that terminator genes do in fact exist. On October 28th, Reuters published an article that made its way through a number of print and on-line publications that examined the recent trade dispute taking place between Canada and China. China has raised concerns over the blackleg fungus that's prevalent among Canada's canola crops. China insists that, unless they can be assured that imports are free of the fungus, they are refusing to import any Canadian canola.

Now, as expected, Canada's Minister of Agriculture and Agri-Food Gerry Ritz took this potential loss of a huge market quite seriously, and he engaged in dialogue with the Chinese. According to Reuters, Minister Ritz "assured China that there is no chance of blackleg from Canadian canola spreading in Chinese fields. The canola *(as Ritz indicated)* that Canada ships to China is genetically modified and contains a gene that keeps it from sprouting."

Well, again, here is Canada's very own Minister of Agriculture and Agri-Food completely misinformed as to how GMOs are *currently* designed to function, believing, just as Rob Merrifield did a year and a half ago, that terminator genes have somehow been approved.

Perhaps the greatest stroke of irony was a comment the Minister made in reference to China's refusal of Canadian canola. According to Ritz, "I think there's some misinformation over there that we'll seek to resolve." Clearly that misinformation originates here in Canada.

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Now while any hope might seem lost that the Canadian government is even capable of addressing this GMO controversy, there are other forums that make

up Canada's parliamentary system that might lend a glimmer of hope, and at the very least, Members of Parliament can receive accurate and truthful information.

One of those forums are parliamentary committees, whereby members of either the Senate, the House of Commons, or both, are tasked with considering matters, including bills, that have been referred to them *by* the Senate or the House of Commons. The *types* of committees consist of standing, legislative, special and joint committees, as well as Committees of the Whole and the Liaison Committee.

One of those committees is the Standing Committee on Agriculture and Agri-Food, made up of twelve Members of Parliament. Of those members, six are from the Conservative Party; three from the Liberal Party; two from the Bloc Quebecois; and one from the NDP. Eleven of those members are men, and one is a woman.

Now in the past few months as an example, the Committee has addressed issues such as the crisis in Canada's hog sector; trade disputes over beef between Canada and the US; or broader concerns over the competitiveness of Canadian agriculture on the global stage. When such topics are addressed, experts from the industry, government and the public are invited as "witnesses" to address the Committee and lend their expertise to the dialogue. On December 1st and 3rd 2009, the Committee chose to examine the subject of GMOs, with a focus on the regulatory process for approving such foods and the perceptions among the Canadian public on the presence of GMOs in our food supply.

With most committee meetings being broadcast on-line, Deconstructing Dinner recorded those two meetings and has archived unedited dialogue on our website at deconstructingdinner.ca and posted under the December 3rd 2009 episode. Some of the witnesses invited to speak were Brian Ellis of the University of British Columbia; Rickey Yada of the University of Guelph; and those who we'll hear on today's broadcast: Michel Arnold of Option Consommateurs; Gord Surgeoner of Ontario Agri-Food Technologies; Devlin Kuyek of the Canadian Biotechnology Action Network; Terry Boehm of the National Farmers Union; and Peter Andree of Carleton University.

And to lead off our show today, we'll listen in on the first witness invited to speak to the Committee on December 1st. Michel Arnold is the Executive Director of Option Consommateurs, a not-for-profit association whose mission is to promote and defend the basic rights of consumers and ensure that they are recognized and respected. The Association is headquartered in Montreal, Quebec. Michel is heard here through an interpreter.

Michel Arnold: Mr. Chairman, ladies and gentlemen, as you see I am Michel Arnold, CEO of Option Consommateurs, and with me is Mr. Francois Decary-Gilardeau, who is the agri-food analyst for our organization.

I would first like to thank you for giving us the opportunity to share our thoughts on a consumer issue of great importance in the food chain, namely GMOs. At the very outset, I would like to introduce you to our Association.

Option Consommateurs has been in place since ‘83 and we defend and promote the rights and interests of consumers. To do that, we can count on some thirty professionals. Over the years we have developed particular expertise in several areas of budgeting and consumer indebtedness; financial services; health; and food and energy. Moreover, we participate in the regulation of biological products, organic products, and the development of the standard on voluntary labelling and advertising of foods that are, and are not, products of genetic engineering.

Our guiding principles for consumer protection come from the U.N. These principles emphasize that consumers should be protected against risks to their health and safety; that they have the right of access to adequate information to make informed choices. This translates into simplicity, reliability, and transparency in labelling. The information provided to consumers must be credible and verifiable.

For the last ten years, Option Consommateurs has participated actively in the discussion and debate on genetic engineering. Since 2000, we have produced eight research reports on specific issues related to GMOs, including food safety and the precautionary principle; the readiness to provide traceability of food; and also consumer participation in regulation. In short, our organization has over the years acquired a depth of expertise in consumer issues related to GMOs.

The Canadian diet has changed radically in recent decades in terms of food consumption patterns and sourcing. Consumers have also become more demanding over the years. For example, since the latter part of the twentieth century the consumption of organic food in Canada has increased by twenty per cent annually. More and more consumers want to eat healthy and good quality food.

Meanwhile, Canadians want a real choice in matters dealing with GMOs. Approximately eighty per cent of the Canadian population is in favour of mandatory labelling for GMOs. According to recent public opinion polls, in Quebec the figure is eighty-six per cent and in B.C. seventy-nine per cent.

Rightly or wrongly, consumers have many fears about GMOs. According to an Angus Reid poll, they worry about their health effects and they also wonder what impact this type of production will have on the environment. We should note that Canadians know very little about methods of food production, whether it be in conventional agriculture, organic or genetically engineered food. Moreover, very few understand the regulatory process for GMOs.

Mr. Chair, ladies and gentlemen, given the level of consumer anxiety, Canada should have a great interest in formally adopting the precautionary principle. The widespread use of GMOs, including a significant portion entering the food chain greatly increases the risk factor for this technology.

Adoption of the precautionary principle must be implemented through a strong operational approach. It must translate into a scientific approach. It must be characterized by a risk analysis in three stages: assessment; measurement; and risk communication. Therefore we encourage the consideration and implementation of all recommendations of the Committee on Ethics, Science and Technology of Quebec in its report, *The Ethical Management of GMOs*, from 2003.

And a second recommendation was that the approved GMOs must be subject to a scientific assessment that takes into account the potential impacts of these organisms on human and animal health and the environment and it is not limited to an evaluation of foreseeable risks.

It is impossible today to talk about food safety without mentioning food traceability. For example the listeriosis crisis, the mad cow crisis, raised many questions about the ability of the food chain to track animals and food stuffs throughout the production chain.

When a government chooses to label genetically modified foods and implements a system of traceability and identification of these foods, it reinforces the allegations and thereby increases consumer confidence in this information but also the entire food system.

Traceability must, however, be controlled and it must rely on a rigorous, consistent and reliable regime that is harmonized with international developments in the field. Moreover, in light of our research, we can say that consumers want to exercise their fundamental right to be well-informed and make informed choices through accurate labeling.

In April 2004, after three years of discussion within the Canadian General Standards Board (CGSB), the Government of Canada created its voluntary code on labelling and advertising of foods that are not products of genetic engineering. The code is an effort to explore ways to identify these foods through labelling which help to make informed choices.

After the five year period there has to be a mandated complete revision of those standards. We observe that the code unfortunately has been highly inefficient. On the one hand, to our knowledge, no products appear voluntarily as genetically modified. On the other hand, to our knowledge, only a few products were

displayed without GMOs and those that we have examined did not meet the voluntary code.

In 2004 Options Consommateurs had voted against the code because we believed it was inadequate. In fact we were right. The consumers have not been better informed as a result.

The Canadian regulatory process for food crops and genetically engineered crops has both strengths and weaknesses. It can be improved in terms of transparency, information and public participation.

We conducted research in 2004 that said that Canadians were concerned not only about GMOs but about the registration process. Five years later nothing leads us to believe the situation has changed. Instead, in a recent report published by the Government of Quebec, it was noted that the “lack of transparency and information regarding biotechnology in general can have an impact on the ability to choose knowingly or alternatively; the ability for consumers to enter freely and intelligently into a contract. This limitation may affect the credibility of economic agents, regulators and affect the very functioning of the economic performance of the sector.”

We believe that many steps can be taken to improve transparency regarding GMOs. In our 2004 research, we made twenty-one recommendations that are relevant to this day even though they are a little bit dated by now.

We take this opportunity finally to invite the Government to fund independent research on GMOs. We have noted that, since 2004, the Office of Consumer Affairs has not funded a single research project on this still relevant subject.

In the light of our research we respectfully submit three recommendations. And I will conclude with this:

The first is that we recommend the adoption of the precautionary principle in relation to GMOs. And there are two principles to that: one, conditions of application clearly defined; process of decision-making structured based on detailed scientific and other objective information.

The precautionary principle is surrounded by a scientific approach characterized by a three-step risk analysis: an assessment management and risk communication.

Recommedation Two: We recommend that Canada adopt legislation as soon as possible for the implementation of mandatory labelling of GMOs in food and an adequate system of traceability.

Finally, we recommend that labels not merely indicate the presence or absence of GMOs in the product - that is the product approach. But rather indicate the manufacturing process of the food product - that is the process approach.

Thank you for your attention.

Jon Steinman: Michel Arnold, the Executive Director of the Montreal-based Option Consommateurs, a not-for-profit association whose mission is to promote and defend the basic rights of consumers and ensure that they are recognized and respected. Michel was heard there through an interpreter at the December 1st meeting of Canada's Standing Committee on Agriculture and Agri-Food. The Committee is made up of twelve Members of Parliament who examine issues of significant importance to Canadian agriculture and food. On December 1st and 3rd the Committee examined the subject of GMOs and is the focus for today's episode.

Now there were two other witnesses invited to speak on December 1st and their comments are archived on our website at deconstructingdinner.ca. And also on those recordings are the comments and questions from members of the Committee. But for sake of time we won't get around to hearing many of those on the broadcast today as we do want to share with you some of the witnesses from December 3rd, as three of them are familiar voices to Deconstructing Dinner.

But before we get to them, there is one comment from a member of the Committee in particular worth addressing, as his comments speak to this misinformation on this subject of GMOs that we spoke of at the top of the show and that also seems to pervade the perceptions that Conservative Members of Parliament in *particular* seem to harbour.

To introduce some of that misinformation, one of the Committee members who spoke on December 1st was Conservative Member of Parliament Randy Hoback, who represents the riding of Prince Albert, Saskatchewan.

Randy Hoback: Yeh, it's interesting. I grow GMO canola, for example. And I look at my crop yields. Probably ten years ago, if we got twenty-five bushels an acre we were excited. We always dreamed of about forty bushels an acre. This last year we pushed forty-five and we were disappointed because we didn't get fifty-five. And if you go to the corn industry you would say it's probably three fold or four fold that.

But what also excites me in the canola industry is I see the end product that is coming out the GMO side. For example, the IMC canola that Cargill brings out or high erucic acid. How it's actually adding healthy oil into the food system, reducing cholesterol and stuff like that.

Jon Steinman: Conservative MP Randy Hoback. Now Hoback's comments piqued our interest here at Deconstructing Dinner, as they speak to some of the misperceptions around GMOs such as those that were spoken of as part of our May 14th episode featuring Dr. E. Ann Clark of the University of Guelph.

In particular was Hoback's reference to yields and his satisfaction with the *increased* yields that GMOs have afforded him. Just as was highlighted on our May 14th episode, there are *no* varieties of canola that have been genetically engineered to produce increased yields but this has become a prevalent and misguided assumption: that genetic engineering is synonymous with increased yields. And instead, any noticeable increases in yields are most likely the result of traditional breeding and *not* the genetic engineering itself.

Now it was this among other comments made throughout that December 1st meeting that sparked Deconstructing Dinner to author a letter addressed *to* the Committee to share some of the knowledge that we've learned from guests on our show with them. This letter is posted on the December 3rd, 2009 page of our website at deconstructingdinner.ca, and it also addressed Randy Hoback's second comment that we just heard.

Randy Hoback: What also excites me in the canola industry is I see the end product that is coming out the GMO side. For example, the IMC canola that Cargill brings out or high erucic acid. How it's actually adding healthy oil into the food system, reducing cholesterol and stuff like that.

Jon Steinman: Now, again, Hoback's perceptions are misinformed, as there are no varieties of canola on the market that have been genetically engineered to produce healthier oils, as suggested by Hoback there. Instead, any of the varieties that are said to produce high-oleic oils have been the result of traditional breeding and, in particular, hybrid seeds, not genetic engineering.

The letter we authored touches on a number of other comments made in that meeting, such as the role of GMOs in feeding the world; the said benefits of reduced chemical use resulting from GMOs. And it also pointed to the misinformation put forward by Minister of Agriculture and Agri-Food Gerry Ritz, which was spoke of at the top of the show. Again you can view that letter on our website, at deconstructingdinner.ca.

But moving along to day two of the Committee's hearings on genetically modified food, we arrive at the first of four witnesses invited to share their thoughts on GMOs. The first was Gord Surgeoner, a proponent and promoter of GMOs and the President of Guelph, Ontario-based Ontario Agri-Food Technologies, an organization consisting of members from farm associations, universities, industry and government.

Moderator: Call our meeting to order. Members are trickling in, but because of time we will get started. And Mr. Surgeoner, we will start with you.

Gord Surgeoner: We'll begin. And I understand I have between five and seven minutes. Because of that I will just hit the highlights of my presentation. You have all been provided with a copy.

Who I am? I am President of Ontario Agri-Food Technologies. I answer to a Board of Directors, five of whom come from the farm associations, two from universities, and three from industry. I should also say, though, I am Chairman of the Board of Performance Plants, which is a biotechnology company that is taking technology out of Queens University and has been in business since 1997.

You asked a number of questions. I guess, first of all, I'll go right to the key answer: where do we think our organization believe we are relative to the regulatory process on genetically engineered crops?

And I would concur with the Grains Innovation Roundtable (so this was held in Western Canada), the current assessment structure is delivering science-based – and I think that's a key word – science-based decisions on a timely basis, enabled by an ever-increasing level of coordination among the participating regulatory agencies.

So, at the end of the day we have had regulations since about 1995. I do want to emphasize, in Canada we do not regulate genetic engineering per say: we regulate novelty. And, in my opinion, that's the way we should. It's recognized around the world as the best science-based process. Because you have to regulate the product, not how you got there. So we have what we call plants with novel traits, foods with novel traits. And they go through regulatory process.

In my presentation I outline the entire regulatory process. But I think it's important for you to understand what I mean that we regulate product and not process. For example, omega-3 milk had to go through the regulatory process because that was a novel trait. We as humans had not had milk with omega-3 in it.

And I would just give you an example, too, on traditional plant breeding. Agriculture & Agri-Food Canada developed a new durum wheat that had three times the gluten level in it, and proudly announced we have three times the gluten level. The Italians love it for nice thin pasta.

But my point here is, it doesn't matter how you get there, gluten is the celiac trigger for most celiacs in Canada, which we have 165. So that same headline could have said, "Ag Canada scientists increase gluten trigger by 300 per cent," and it would have been accurate as well. So we have to regulate the product, not how we got there.

And that's what we do in Canada, and I think that that is the right approach. And that we have multiple agencies – Health Canada, Environment Canada – and a whole procedural basis on which we go through regulation.

To get any product on the market today is probably about a ten million dollar process, from discovery right through to regulatory. And I would indicate that there is an understanding amongst the major companies that they will not release for commercial use product unless it has been ok'd both in United States, Japan and Canada. It doesn't have to necessarily be ok'd in Europe but those are the three areas.

And the whole data requirements are based on environment or food and feed. And it's flexible. So for example, if you are talking about omega-3 milk, you wouldn't have to look at environmental issues in my opinion, nor in regulatory opinion. But you have to see, does that have any untoward impact on health?

So, the point that I make here is that, we have a system in place, it's been there since 1995. In our jurisdiction – Ontario – about eighty per cent of our soy beans are now genetically engineered; over fifty per cent of our corn is genetically engineered. And indeed, about ninety per cent of canola is genetically engineered. And canola did not exist as a crop per say until 1982. It was rapeseed.

I hope you on the Ag Committee know what canola stands for? Canola stands for Canadian Oil Low Acid. We bred out through traditional ways the erucic acid.

Another way to show this is: we can create herbicide tolerance in crops three different ways. One is by genetic engineering. One is by a process called mutagenesis, where you mutate plants until you find a mutation that provides that particular herbicide resistance, as an example. Or we can out-cross from other species.

The impact of that herbicide tolerance is by the product – not whether we use mutagenesis or that - because it is the product that is put out into the environment. And that's the way the system works.

I do want to emphasize it's multi-agency but over the ten years that we have all worked together. And I want to emphasize in full transparency all the studies are put forward. You can go to a room to see them, those kinds of things.

And I guess the last thing that you asked to address: what are the types of products coming down the line? The first wave has been about what I will call biocontrols, or controlling pests. So herbicide tolerance, insect resistance – those kinds of things. The next wave of products - and you can go to Ontario's outdoor farm show to see them from a number of companies – is environmental

resistance, drought resistance, salt resistance, frost resistance, heat resistance - tolerance is what we call it. And now the next wave after that is the consumer traits. There are now in test plots omega-3 soy beans as an example. We are changing the oil profiles of product to reduce the trans fatty acids in there. So that we are now getting soy beans with the same oil profile as olive oil through technology.

So, if you look at the waves then it's been what I call controlling pests; reducing the negative impact of the environment; and now, more enhanced consumer traits, usually for health, but also possibly for industrial purposes as well.

So, in conclusion, and I just received this last night so it's not in your package, and it's an Ag Canada survey of farmers. What kind of new technology would they be willing to take up? And there are one, two, three, four, five, six, seven technologies. Ninety per cent of the farmers - the number one choice would be growing genetically modified crops across Canada. And this is the Ag Canada survey that was just done. So I think that that's very important.

I do agree with consumers and that we have to talk and there needs to be more education. But I really caution when people say, well, eighty per cent of consumers want it on the label. If you go and blindly ask consumers, and you don't give them "are you concerned about this?" only about one to six per cent. So, top of mind, they will say food safety, diseases, pathogens, for obvious reasons that you have obviously gone through. Things like hormones, pesticide residues, those kind of things. But genetic engineering per say is down less than ten per cent, and getting smaller all the time.

I think we all agree we need strong regulatory process. It is working. To our knowledge, there has not been a single case of human problems associated with this. And I do document a number of cases where we've reduced fossil fuels, for example. We have allowed for no-till on two million acres in Ontario, which has greatly reduced soil erosion. Those kind of things have happened as well.

Moderator: Thank you very much, Mr. Surgeoner.

Jon Steinman: This is Deconstructing Dinner, a syndicated weekly radio show and podcast produced in Nelson, British Columbia at Kootenay Co-op Radio CJLY. I'm Jon Steinman.

If you're not yet a subscriber to our free weekly podcast there is more information on how to become one on our website at deconstructingdinner.ca, where today's show is also archived.

On today's episode we're continuing with our ongoing coverage on the controversial subject of genetically modified organisms (GMOs), also referred to as genetically engineered (or GE) foods. On December 1st and 3rd, Canada's

Standing Committee on Agriculture and Agri-Food invited panels of experts to share their thoughts and opinions on the current regulatory structure that approves the introduction of GMOs into Canada's food supply. The Committee is made up of twelve Members of Parliament from all four major political parties and more information *on* the Committee is also linked to from the Deconstructing Dinner website.

We were just hearing Gord Surgeoner, speaking to the Committee on December 3rd. Gord is a proponent and promoter of genetically engineered food and the President of Guelph, Ontario based Ontario Agri-Food Technologies, an organization consisting of members from farm associations, universities, industry and government.

But following Gord were some rather different opinions on GMOs, and from three familiar voices to Deconstructing Dinner. The first was Devlin Kuyek, who lent his voice to our February 9th, 2006 episode on terminator seed technology. Devlin spoke to the Committee on behalf of the Canadian Biotechnology Action Network (CBAN), an organization that we also featured on our August 6th, 2009 episode. Devlin was critical of Canada's regulatory system for genetically engineered food.

Devlin Kuyek: My name is Devlin Kuyek. I am a Special Advisor and a Member of the Steering Committee of the Canadian Biotechnology Action Network. We're a coalition of seventeen groups from across Canada. We represent farmers' organizations, environmental and international development groups and various grassroots coalitions. It's a three year old network but it brings together fifteen years at least of civil society experience working on this issue of GMOs. And there is a brief that we have submitted which gives you a bit of the sense of expertise that we have working on the issue of regulations.

I myself am an author and researcher who has written extensively on the seed system in Canada, on seed policies in Canada, and on the issue of GMOs. And I work also with an organization called GRAIN, which is an international, non-governmental organization with head offices based in Barcelona.

Again, we just have a short amount of time so I am going to broaden things out to look at a bit more the general context here. To understand where we are with GMOs in Canada you have to look at it as a deliberate policy shift that has happened, from taking a seed system that was largely what we call a public seed system - that had broad-based support from farmers, from scientists, and from the general public - to what we have today, which is essentially a corporate seed system. The research agenda is in the hands of a very small number of corporations, most of them pesticide corporations from outside of Canada.

And the strategy that has been put in place to make this transformation happen goes back about thirty years. And to understand what it has meant, you have to look at the whole packet of stuff that has been put in place to support this

industry. Billions of dollars have been spent over the past thirty years to support biotech start-up firms, to give direct subsidies to the companies. There has been a slashing of the public plant breeding programs, and privatization of the public breeding programs. Seed regulations have been changed in order to facilitate this industry, to do away with protections that were once there for farmers. We've implemented a whole range of new laws, including plant breeders' rights legislation. We've also allowed for patents on life, which is something very new, which has meant that farmers can no longer save seeds. So we are having much less seed saving that is happening, which also needs to be seen as a subsidy to this industry.

And overall, through this amount of subsidization, this amount of privatization, all these changes to the regulations, what we've in effect done is make it impossible for other alternatives to exist. And I would say that also the contamination that we have now seen with flax but that is happening with canola is also another case where we are doing away with alternatives. Space where other forms of doing plant breeding, other seed systems, can exist. And it's all been in the name of supporting this biotech industry.

And I think even when we talk about regulations and the regulations that Canada has developed and evolved since the 1980s really and starting more in the 1990s. These regulations also have been primarily driven by a desire to protect this biotech industry. Nothing is done that might impinge on the success of the GMO industry. So we don't bring in labelling, which would be a minimum requirement, you'd imagine, for a government that would want to bring in such a risky technology as GMOs. And there is no liability that exists. So when a situation like contamination happens with flax, producers are just left on the hook for millions of dollars in damages.

So what about this industry would justify such enormous privilege coming from our federal government? What is this industry to begin with? What industry do we have if we look at the biotech industry today?

Well, eighty-seven per cent of the GM seed that is grown in the world today is sold by one company: Monsanto. They control eighty-seven per cent of the GM seed supplied in the world. And just three pesticide companies – it's important to know all these are agro-chemical companies - three agro-chemical companies control nearly half of the global proprietary seed supply. Twenty years ago these companies were not even involved in seeds. At least from the corporate side, there was very little private sector participation.

And these companies, it has to be pointed out, have specific interests when it comes to seeds. And Monsanto has said on other occasions that seeds for them are a means to control the food supply. And what it is that they want to do with seeds, is on the one hand, tie farmers to the use of their proprietary herbicides, which is why we have seen an escalation in the amount of glyphosate used

(which is, of course, produced by Monsanto), and they want to be able to exercise patents and control, which is why we are seeing insecticides now being produced through the plants. So these are the BT crops which produce the insecticide in the plant itself and which, of course, are patent protected by these companies.

And this is the overwhelming focus. We can talk about coming waves of technology. We have, of course, yet to see that. But this is the overwhelming focus of these companies. And it's important to bear in mind, too, when we talk about things like salt-tolerance, or drought, or we talk about the changes to the oil content of crops. All these things are possible, and are being done, with conventional plant breeding. And that's where we've been negligent to invest. And that's where the focus on GM has really hurt. And it's hurt farmers because these companies can charge increasingly because of the control they have. They can charge exorbitant rates for their seeds. So it's no surprise you're seeing farmers now trying to get out of hybrid canola by doing their own research on seeds that they've saved even though it's hybrids.

And there are questions - then why are farmers doing this? Well, it's because the seed prices keep going up. Last year in the height of the food crisis, when commodity prices were at an all time high, Monsanto used that as an opportunity to boost up its profits. It doubled its profits last year. And what happened for farmers? Farmers' net farm income in Canada and the U.S., where this company has most control, declined. At a time when farmgate prices were at all time highs.

So I think it's time - thirty years now since we've had our national biotech strategy in place (well, nearly thirty years) - that we start to take a look at defining seed policies that meet the needs of the Canadian public. That we start to legislate on behalf of the Canadian public, and not on behalf of shareholders of a small number of corporations based in foreign countries.

Jon Steinman: Devlin Kuyek of the Ottawa-based Canadian Biotechnology Action Network, a network of citizen and farmer organizations who promote food sovereignty and environmental justice. Devlin is based in Montreal and was heard here speaking in Ottawa on December 3rd, 2009 to Canada's Standing Committee on Agriculture and Agri-Food.

Following Devlin was another familiar voice to Deconstructing Dinner, Terry Boehm, who is the recently appointed President of the National Farmers Union. Terry farms in Allan, Saskatchewan.

Terry Boehm: Yes, thank you. My name is Terry Boehm and I am currently serving as the President of the NFU. And the NFU is the largest voluntary direct membership farm organization in Canada incorporated by an Act of Parliament in 1969. So this makes this our fortieth anniversary.

What I'd like to talk about is, of course, to reinforce some of things that Mr. Kuyek has spoken about: this model of control that is being exerted, this model that farmers are experiencing, with increased seed prices and increasingly less options, particularly in canola other than GM varieties; and the mechanisms that are being exercised on them to make sure that they comply totally, either through contractual arrangements, threats of legal action, or other mechanisms that keep them in line as far as buying seeds on an annual basis.

You know, there is an assumption made about GM crops: that GM is synonymous with yield increases. I am a canola producer and I am a conventional farmer, and I've chosen to stay outside of the GM program, particularly because of the issues that I recognize around escalating seed prices and control, et cetera. And, for example, there's very few conventional GM open pollinated varieties left, available. Most of them have unfortunately been cancelled or deregistered. And I want to address that a little bit later in what I have to say.

And the varieties of non-GM canola that I am been growing: this past year I had forty-five bushels per acre in Saskatchewan, which is a very good yield. And generally speaking, the varieties that I have been growing have been equivalent or even slightly better than the best hybrids out there. It's more a function of weather conditions and conventional breeding that has brought those traits along for those varieties. In canola, for example, the GM technology has very little to do with yield and everything to do with herbicide tolerance. And that's the trait that has been emphasized in regard to that. The advances in yield and other agronomic characteristics have generally been advanced by conventional breeding programs.

Now, several problems are cropping up with GMOs, pardon the pun, in Canada. And of course, GE flax is front and foremost for those of us producing flax. And I had a part to play in the cancellation or deregistration of Triffid flax some eight years ago. And so I am intimately familiar with that issue.

But what are we experiencing right now? In one of the rare instances where farmers and industry in all aspects co-operated to have this variety deregistered, in spite of the fact that we had a regulatory system that allowed that variety to move through completely unimpinged by any factor, to have it removed in recognition of the market harm that would result from that coming forward. And we initiated a plan to have some 180,000 bushels of certified flax seed destroyed. Unfortunately, I guess the program wasn't totally successful.

And we have seen the European market closed to flax, which is a premium market, which is a market that has no tolerance for this unapproved GM flax, which I might add was a completely useless product. Even Prairie farmers didn't see it having any value when it was introduced. But, nevertheless, our regulatory system, both then and today, would allow that particular variety to move through

with no barriers. And I would just ask, how many markets can we afford to lose in this manner without recognition that there are markets in the world and that the economic well-being, both for Canadians and farmers, has hinged around successful access to some of these markets.

Now, one of the more interesting things: we have had a great deal of discussion over the years with CFIA and others about adventitious presence and the need to establish percentages in crop kinds to allow for the crop contamination that occurs with GM crops in the general environment. So now we are in a situation where Triffid flax, the GM flax, an unapproved event in Japan, the flax industry and the canola industry - which is largely GE canola - is now worried about having GE canola markets closed in Japan because of adventitious presence contamination with GE flax and dockage, and unapproved GE flax.

So what I would say to you is that, if you accept the regulatory system as it exists, you will continue to run into these problems, because GM wheat would have proceeded through the regulatory process had not Monsanto voluntarily withdrawn it some five years ago. And we would be confronted with the same situation: eighty-two per cent of our premium market customers said that they would look elsewhere for wheat supplies if Canada went down that path.

Now GM wheat is in the offing. Some groups are lobbying for it. And indeed the industry is speaking about reviving that in a different form.

SmartStax corn is another example where we have issues both with Health Canada and the environmental release of these products. It has six BT traits, which give it insect resistance, and two herbicide traits, which allow it to be resistant to two different herbicides. Unfortunately, it hasn't really been looked at significantly differently than the individual traits, so the approval of individual traits normalizes it in any combination in the plants. And this is actually in conflict with some of the dialogue that's in the regulations around regulating plants with novel traits. Which is particularly problematic in regard to recognition elsewhere in the world. Products of GE, our DNA technology, have created significant harm for many sectors, including the organic sector, which has lost many options.

Now we have a variety registration system that has been modernized, just June and July of this year, that has allowed the potential movement of crop kinds into less onerous testing, merit requirements, agronomic testing, et cetera, that would allow even a quicker acceleration once those crop kinds are moved into a less onerous tier. And I can assure that industry would argue that they need the less onerous tiers in order to advance the magic bullets that they have in their back pocket and it's just far too expensive to go through this testing and recommending committees.

The CFIA actually, in their arguments for the variety registration changes, even suggest that this would allow the decision to commercialize new varieties to be

made solely by the developers and not to be dependent upon a recommendation made from a recommending committee. Again, environmental and market concerns go by the wayside and we run into a situation where farmers are left holding the bag.

There is a myriad of things on there. All I can say is that we need more comprehensive hearings between Health, Environment and Agriculture. We've ended up with expensive seeds, lost markets for farmers, and how much can the Canadian economy afford going down this path?

Thank you very much.

Jon Steinman: This is Deconstructing Dinner. And that was Terry Boehm, the President of the National Farmers Union speaking on December 3rd, 2009 to Canada's Standing Committee on Agriculture and Agri-Food. Terry farms in Allan, Saskatchewan.

On today's episode we've been listening to audio from the December 1st and 3rd meetings *of* the Standing Committee on Agriculture and Agri-Food. The Committee is made up of twelve Members of Parliament and is tasked with examining issues of importance to Canadian agriculture and food. In the past few months as an example, the Committee has looked at the crisis in Canada's hog sector; trade disputes over beef between Canada and the US; or broader concerns over the competitiveness of Canadian agriculture on the global stage. When such topics are examined, experts from industry, government and the public are invited as "witnesses" to address the Committee and lend their expertise to the dialogue.

On December 1st and 3rd the Committee chose to examine the subject of genetically modified organisms (or GMOs) with a focus on the regulatory process for approving such foods here in Canada. Unedited audio of these two meetings is posted on our website at deconstructingdinner.ca and listed under the December 3rd 2009 episode.

The last witness we'll hear on today's episode is another familiar voice to Deconstructing Dinner, Peter Andrée. Peter is an Assistant Professor in the Department of Political Science at Ottawa's Carleton University.

Peter Andrée: Thank you very much for having me here today. My name is Peter Andree and I am a Professor in Political Science at Carleton University.

I come at this from having studied the regulatory system in Canada for a number of years and having done research interviewing regulators and also looking at the international politics of GE regulation - regulation of genetically modified foods and crops.

First of all, thank you for inviting me here today. That's the first thing I wanted to say. And I think that this is an important time for this debate, particularly because of the two issues that Terry just raised: the approval, or the seeming approval, of SmartStax corn in Canada without Health Canada actually giving it regulatory oversight (and I will come back to that in a second); and this case of the GE flax, which is not meant to be grown in Canada but which has still managed to destroy markets for Canadian farmers overseas.

And I think both of those issues point to weaknesses within our regulatory system: that if we don't figure out how to fill them soon we're going to have more of these problems and we'll be putting Canadian farmers at risk again.

I should also clarify that, while I am critical of the regulatory system for GMOs in Canada, I'm not against the technology per say. And that's where I stand on the issue.

In September I was invited to speak at a symposium that the Royal Society of Canada organized together with l'Academie des Sciences in France on the issue of GMOs. And they brought together scientists and people who studied regulation and social issues from those two countries in the symposium. And I passed out a presentation that I did there called "An Analysis of GMO Regulation in Canada: Eight Critical Issues," in which I look at issues of the use of substantial equivalence in Canada, allergenicity testing, transparency, peer review – a number of areas where essentially the Royal Society of Canada was invited by the Canadian government back almost ten years ago to do a thorough analysis of how effective is the regulatory system. Are there any holes in that system, given the products that going to be coming down the pipe, and what do we need to improve that system?

And the Royal Society of Canada expert panel in 2001 produced a substantial report (several hundred pages) in which they outlined I think sixty-three recommendations. And one of the pieces of research that I have done over the past five or six years ago now was really to look in detail at how did the Canadian regulators respond to those sixty-three recommendations. And my analysis would suggest that there are still some critical holes that were identified in 2001 and which remain to be filled. And I think, like I said, Canada really has to move on these if we are going to not put our farmers at economic risk in the way that Terry was talking about.

I am just going to touch on three of these eight issues for the sake of moving this along. The first is this whole question issue of substantial equivalence. I won't get into all the technical details but it essentially means that the regulators at Health Canada - and in Canada, the Canadian Food Inspection Agency also uses this concept - compare the genetically modified food or plant to a non-modified counterpart, and look for, are there any areas where there are significant

difference? And if there are areas for significant difference then that kind of gets evaluated in more thorough testing.

This concept has been controversial, and in 2001 the Royal Society of Canada quite explicitly laid out to the regulators how the concept should be used. They said that if you are going to make a determination of substantial equivalence you should look at the DNA structure; gene expression; proteomic analysis, which are the proteins that are created by those genes in the plant or food; and secondary metabolite profiling.

And so they really spelled out if you are going to understand these new crops in relation to the ones that we have been using for a long time, these are the levels at which you have to understand the differences.

Now in the case of SmartStax corn, which Terry just pointed out, this is a corn variety that CFIA approved this summer. It has six traits that allow the plant to create BT toxins, and then there are two herbicide resistence traits.

The Canadian Food Inspection Agency, which looks at feed safety and environmental safety, did an analysis of this crop and approved it. Health Canada didn't look at it at all. The reason for that is because each of the eight traits, either singularly or in pair, had been previously assessed. The assumption that they are going on is that the whole is no different that the sum of the parts. That's not the assumption that the Europeans would make when they look at this or most other regulatory systems in the world.

And in fact even the U.S. Environmental Protection Agency just this past year had a whole scientific meeting where they looked at this question of stacked traits in crops. And they said, you know, there is the possibility of synergistic effects, of these genes interacting. And so we really need to look carefully at that before just assuming that the whole is more than the sum of its parts.

But in Canada the way the system is right now, Health Canada did not look at this product. And I know that there are people within Health Canada that would have liked to, but it's a hole in our regulatory system.

Related to that issue is the question of who is responsible for identifying potential problems. Our regulatory system actually requires that the applicant - the company bringing a product like SmartStax forward – identify if there are any changes that require further scrutiny.

But it's interesting, there is a disconnect here as well. Because when the *Globe and Mail* wrote an article about this hole - SmartStax getting through the Canadian regulatory system - and the reporter approached Monsanto and said, so, did you look carefully? Did you do the science to see if there are any differences between this eight trait stacked product and the non-genetically

modified competitors? And Monsanto said, well we didn't have to do that science because there is no need for additional safety assessment from Health Canada and the CFIA. And so neither group is taking the time to do the science to figure out if there are any unexpected effects from the stacked product.

The second issue that I want to raise is the question of transparency in the regulatory system. I think this will be of interest to some of the members of this committee.

The Quebec government actually is the only provincial government that has an interministerial committee that's kind of tracking the GMO regulatory approvals process at the federal level. And I've been having some communication with members of that Committee and they are very frustrated. And there actually have been interministerial meetings between the Quebec government and the federal government to increase the transparency. And it's on two levels: both public access to some detail about how regulatory decisions are made; and then also that other outside and independent scientists can verify the kinds of data upon which these decisions are made. And that's of real concern to the Quebec government.

The last issue that I just want to quickly touch on is this whole question of socioeconomic considerations. And it relates to the flax issue that Terry pointed out.

One of my pieces of research was on how the Canadian government dealt with the case of Round-up Ready wheat, or genetically engineered wheat, that was moving through the regulatory system in 2003-2004. It had been approved by Health Canada. It's not clear what the final response will be from the Canadian Food Inspection Agency. I have to say that I felt they were doing a very good job applying very tight scrutiny to this product and I think that's partly because they were getting some pressure from above. And that's because if it had it gone through, there would be no other mechanism for preventing this product from even getting used by just a few Canadian farmers. And if a small amount of that Round-Up Ready wheat were in shipments going over to Europe, then all of the shipments would be turned back. And that's a multi-billion dollar industry.

And the federal government just didn't have a mechanism for saying, you know, in this case there's large economic harm that can happen from this product. We need a mechanism in place to prevent it from being used in Canada.

And I interviewed a number of civil servants who were just like the Minister of the time, completely unprepared to deal with this because we didn't have the mechanism in place. And I understand that you're all now looking at whether there is a mechanism for examining economic harm, and I think that is really important. Thank you.

Jon Steinman: Peter Andrée, an Assistant Professor in the Department of Political Science at Ottawa's Carleton University. Peter was heard speaking on December 3rd 2009 to Canada's Standing Committee on Agriculture and Agri-Food.

The unedited audio of the Committee's entire hearings on genetically modified food, including the many questions and comments made by the Members of Parliament who comprise the Committee, is archived on our website at deconstructingdinner.ca and posted under the December 3rd 2009 broadcast.

Deconstructing Dinner will keep tabs on the Committee and how they might choose to respond to the information shared as heard on today's episode. And you can stay tuned to future episodes for any updates.

ending theme

That was this week's edition of Deconstructing Dinner, produced and recorded at Nelson, British Columbia's Kootenay Co-op Radio. I've been your host Jon Steinman. I thank my technical assistant John Ryan.

The theme music for Deconstructing Dinner is courtesy of Nelson-area resident Adham Shaikh.

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