The Strategic Counsel

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Report on
Consumer Views of Genetically Modified Foods

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The Strategic Counsel

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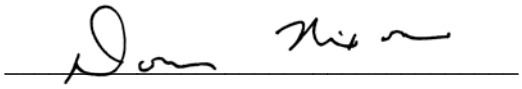
I hereby certify as Senior Officer of *The Strategic Counsel* that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the *Communications Policy* of the Government of Canada and Procedures for Planning and Contracting Public Opinion Research. Specifically, the deliverables do not include information on electoral voting intentions, political party preferences, standings with the electorate or ratings of the performance of a political party or its leaders.

Signed: 

Donna Nixon, Partner

I. Executive Summary

Executive Summary

This report presents the findings from a comprehensive research program which was undertaken on behalf of Health Canada in March 2016 to gauge Canadians' views on genetically modified (GM) foods and issues related to the application of science and technology in food production and manufacturing. Please note that the term "GM foods" is primarily used in this report, although at times the expression "GMO" (Genetically Modified Organism) is also referenced, as this was used by many of the research participants.

A. Context

Over the years, public opinion research has shown that many Canadians are sceptical of, if not outright opposed to, GM foods, with substantial proportions among the public expressing intense concern about the impact of GM foods on human health and the environment. Health Canada thought it was prudent to obtain a more current reading on public opinion with a view to identifying and addressing specific gaps in Canadians' understanding and concerns with respect to GM foods. The findings are intended not only to provide Health Canada with a more up-to-date understanding of Canadians' attitudes and behaviours related to GM foods, but also to inform communications activities and specifically any areas of concern raised by the general public.

A hybrid methodology (both qualitative and quantitative components), including 10 focus groups (two in each of five centers including Halifax, Toronto, Quebec City (in French), Saskatoon and Vancouver) and an online survey of n=2,018 respondents, was designed and executed with all fieldwork taking place between March 9th and March 30th, 2016. The focus of this research program was designed to assess broad views and concerns with respect to the application of science and technology in food production and manufacturing and, more specifically, Canadians' views on GM foods in general. As such, the results are also relevant to understanding consumers' views on the wider application of science and technology within the agricultural and food production/manufacturing sectors. The research also offered useful insights applicable to the development of broader educational, outreach and communications initiatives aimed at informing Canadians about Canada's food safety and regulatory processes.

Note to the Reader

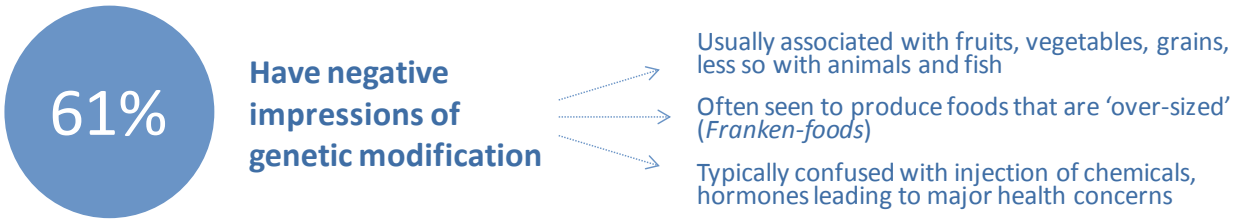
Qualitative research is designed to reveal a rich range of opinions and interpretations rather than to measure what percentage of the target population holds a given opinion. These results must not be used to estimate the numeric proportion or number of individuals in the population who hold a particular opinion because they are not statistically projectable.

The findings should be interpreted as directional only in nature.

B. Key Findings

Based on the results of this most recent research study, consumers' understanding and impressions of GM foods could be described as not that well formed, as demonstrated by the lack of detailed knowledge that was evident in the focus groups. To date, views have been principally shaped by controversial (less than positive) media coverage, and any confusion or negative views which do exist are often reinforced by the ongoing activities of anti-GMO advocates and environmental groups. These groups appear to be quite adept at leveraging social media and playing into public concerns about corporate malfeasance (this is a theme that reoccurs in many recent opinion research programs). In respect of the latter issue, virtually no other company has been as inextricably linked to the GMO debate as Monsanto as a genetically modified seed producer (especially for Roundup Ready crops) combined with being the manufacturer of the Roundup herbicide itself. For focus group participants in particular, Monsanto was frequently invoked when participants were asked to name those things/issues they most associate with GM foods.

Consumers' initial response and reaction to the topic of GM foods is certainly not positive and clearly presents some formidable challenges for Health Canada communicators and policy-makers with respect to addressing the level of confusion, misinformation and generally low awareness/understanding that currently exists. A brief overview of the key findings from both the qualitative and quantitative phases of this research study is presented below along with a number of recommendations, for consideration.



There is both a science and communications gap.

Findings from the focus groups and results of the survey indicate that consumers' basic understanding of food science and technology is low. This is not surprising given a number of factors, including the shift from a more agrarian to more industrialized and urbanized society.

Consumers believe that genetic modification is a process which does or could include injecting fruits, vegetables, animals and food products with potentially hazardous materials such as hormones, antibiotics, steroids or other product enhancers which then fundamentally changes the nature and composition of the product. The term "Franken-food" came up in almost every focus group in the context of discussions about GM foods, although many consumers clearly know very little about the actual science of genetic modification.

It is clear that, for quite some time, there has been and continues to be an *information void* on this issue which has been rather successfully filled by the anti-GMO view. It was evident from the focus group discussions that the general population has a relatively low level of scientific literacy, and this finding was also confirmed in the quantitative survey. Further, there is very little specific knowledge of GM foods, genetic engineering, bio-technology or even older practices such as selective breeding. There also appeared to be minimal understanding of innovation in farming practices or the challenges that farmers and agri-business face in producing higher volumes at reasonable prices, meeting changing consumer preferences, and getting food products to market quickly while also being increasingly attendant to sustainable agricultural techniques and practices.

In addition, it appears that there has been some negative "leakage" from the ongoing stories on the GMO ban in the EU as well as protests about Monsanto's efforts to control use of their genetically modified seeds. Importantly, it should also be noted that issues of genetic modification, organic farming, fish-farming, over-use of pesticides and chemical fertilizers and chemicals in food have become conflated.

At this time, consumers are not favourably disposed to GM foods.

Based on the feedback obtained in both the qualitative and quantitative components of this research study, communicating in any positive way on this topic will likely be met with strong and quite vocal resistance from the public and from anti-GMO groups in particular.

There was a strong consensus among most focus group participants that they were not favourably disposed to GMOs in any form, although it was equally clear that a focus on certain aspects of the regulatory, safety and approvals processes can to some extent ameliorate those who are either 'sitting on the fence' on this issue or moderately opposed. However, the extent of likely pushback cannot be under-estimated. From the survey, only 26% of respondents indicated they would be comfortable eating foods that have been genetically modified, and just 22% support the development and sale of GM foods in Canada. It is clear that significant efforts to inform and educate Canadians would be required in order to shift views in a more positive direction

The mostly negative reaction to GM foods among focus group participants was primarily an emotional response, as most participants had little relevant knowledge prior to their participation in the group discussion. This 'current state' was also borne out in the survey. The negative reaction was so strong that, even as more information was provided over the course of a two-hour discussion, it became apparent that a more specific explanation of GM foods could be counter-productive unless communications are clearly and simply crafted, and focused on addressing a very specific set of questions or concerns that the public has on this issue.

The term itself was demonstrated in the groups to generate fairly firmly rooted negative connotations. The survey results confirmed this with 61% of Canadians saying that when they hear the term 'genetic modification,' their thoughts and impressions are mostly *negative* (fully one-quarter (26%) say their impressions are *extremely negative*).

Views on GM foods cut across all demographics and regions.

One of the more striking findings in both the focus groups and the survey was that there was surprisingly little difference in opinions by region or key demographic groups (i.e., parents vs. general population, or older vs. younger Canadians). In the focus groups, however, there were two noteworthy exceptions:

- In Saskatoon, parents tended to lean more neutral to negative in their initial impressions of GM foods, while participants in the group representing a cross-section of the general population tended to view GM foods in a more neutral to positive manner. What was perhaps somewhat surprising in this location was that there was virtually no significant difference between Saskatoon and other locations in terms of their understanding of and views regarding GM foods. On balance, participants in this location were equally concerned about GM foods as in other locations.
- In Quebec City, participants seemed to exhibit greater confidence in the safety of GM foods following a review of various key facts and information contained in statements about GM foods made by Health Canada (which were tested and discussed with participants in each focus group). As with the groups in other locations, they responded positively to information which underscored Canadian collaboration with other countries and world organizations. What was different, however, was the extent to which providing facts and information tended to shift Quebec City participants' views in a more positive direction, perhaps more dramatically than was the case in other locations. However, this same effect is not specifically borne out in the results of the quantitative survey, in that residents of Quebec were no more or less persuaded by particular facts or information relative to other Canadians.

Overall, the opinions expressed highlight a difficult challenge for Health Canada – there are definitive and fairly widespread negative perceptions about GM foods. Indeed, the feeling is so evident that the term GMO/GM food could be seen as having become a third rail in the sense that any person or organization coming out in favour could be viewed in a negative, if not questionable or cynical light.

A basic question remains unanswered – why GM foods?

The massive anti-GMO movement, and accompanying volume of information, presents a significant challenge for Health Canada in terms of being a credible, neutral regulator in that there would be a strong likelihood that any decisions/announcements would be received through a conditioned lens. That said, however, there are significant opportunities to educate the public about the rationale for them. As a starting point, the public does not have a solid grasp as to why GM foods are being produced for sale in the Canadian market place. A strong rationale for GM foods would help, although it would not necessarily sway those who are adamantly opposed at the level of 'values' rather than 'knowledge.' Almost half of survey respondents (48%) agreed with the statement *'I don't really understand why we need to produce genetically modified foods for consumers in Canada.'* In the absence of responding to this basic question, consumers see little need to take what they view as unnecessary risks to their health, and the environment, without a solid case being made in regards to the benefits, at both the personal and broader societal levels.

Currently, the arguments that genetic modification is vital to producing foods that are more affordable, to ensuring Canada's food supply, and to sustainability carry little to no weight among consumers. Consumers have some sympathy and appreciation for these arguments as they apply to the developing world where population growth and the availability of arable land are viewed as creating significant challenges, but the same arguments hold little sway in Canada which continues to be seen as one of the world's leading agricultural producers.

Moreover, consumers are simply not convinced that GM foods are as safe or safer, as tasty or tastier, or as nutritious or more nutritious relative to comparable non-GM foods. At the present time, most consumers view the marketplace for GM foods as one that has been created not to address consumer demand or evolving preferences, but principally as a means of increasing corporate profits (54% agree with this idea). Here again, the legacy of companies like Monsanto continues to underpin and reinforce this perception and this is also likely further exacerbated by a general mistrust of big business, and large agri-businesses and factory-farms, in particular.

While price is the main driver of food purchases, the issue of GMOs lurks just below the surface.

For many consumers the issue of GM foods is not necessarily top-of-mind at the time they are shopping for and selecting foods. However, it was clear both in the focus groups and from the results of the survey, that the issue is an important secondary consideration. When specifically asked, 73% of consumers indicated they have concerns about the use of genetic modification in food production and manufacturing, just slightly less than the number who are concerned about herbicides and pesticides (82%) and the use of antibiotics and growth hormones (80%). The latter two issues surfaced very quickly in focus group discussions when consumers were asked about what they consider when making food purchases. However as we noted earlier, there is also a tendency to conflate genetic modification with food additives (note that in this context additives as seen by research respondents include hormones, preservatives, etc.), which has the effect of reinforcing negative views and stereotypes about food production.

Consumers support labeling of GM foods.

Consumers have strong feelings about being able to identify GM foods when they are shopping – 78% say that all genetically modified foods should be clearly labeled as such on the package. However, to put this in perspective, focus group participants appeared more concerned about choosing healthy options and being able to identify place of origin, while very few voluntarily suggested that having foods labeled as genetically modified or not was the kind of information they were actively looking for when making their choices.

At the same time, in focus groups, participants did voice their desire to be able to make informed choices, based on information. There was a prevailing belief among participants that there should be greater transparency to consumers and, once raised, many questioned why government in particular should be resistant to providing consumers with more information that would help them make more informed decisions. Moreover, survey results revealed that, if consumers had a choice, most (62%) would elect to purchase a non-GM food over a genetically modified food.

The Government of Canada is a trusted source of information on this topic, but there are potential areas of vulnerability to be aware of.

A range of spokespersons are viewed as credible or trustworthy on the topic of food safety and nutrition, mostly experts who do not have a vested interest in the production and sale of GM foods in Canada. These include nutrition and/or health professionals, farmers, international organizations and the Government of Canada. While 70% of Canadians view the Government of Canada as a trustworthy source, just 54% said the same about scientists working for food products companies.

The focus groups offer some further context within which to interpret these results. There was a real concern among focus group participants that scientists should be clearly positioned as neutral, to the extent that their safety assessments are not funded by industry and that the data they use to conduct safety evaluations is also gathered in an unbiased or highly controlled manner. On this latter point, there is a concern that, while it may be standard practice for industry to share data for review by Government scientists, this data may in fact have been manipulated to favour industry. As such, there is a desire for Government scientists to be able to demonstrate that a very rigorous, scientific and unbiased process has been followed. Further investigation as to what might promote higher public trust in the assessments performed by Government scientists could offer additional insights. For example, to what extent would the public be more comfortable knowing that, even if data came from industry, multiple independent data sources were examined?

The bottom line is that simply indicating Government scientists are highly engaged in lengthy and thorough assessment processes does offer some level of reassurance to the public, but this is tempered to a certain extent when the public learns that the evidence/data Government scientists are working with has been provided by the very same company or companies seeking the approval.

Interestingly, the survey results show mixed levels of trust in environmental activists – half view them as either somewhat or very trustworthy and half say they are not very or not at all trustworthy. This result runs

somewhat counter to the conversations in focus groups where it was quite evident that anti-GMO activists, including environmental activists, did appear to be heavily influencing consumers and, in particular, those who expressed more concerns or negativity about GM foods. It may be that, when considered among an array of possible spokespersons, the role and influence of environmental activists is somewhat moderated, but that in the absence of information from other sources the positions of these groups may carry more weight.

Consumers respond favourably to a combination of messaging that stresses scientific rigour in safety assessments, reassures Canadians in terms of any risks to health, underscores the opportunities to produce foods with higher nutritional value, and weaves in some of the other broader societal benefits. Transparency in sharing the results of safety assessments is also favoured.

Consumers respond favourably to messaging which underscores the very rigorous scientific process but also stresses the benefits to be gained from the production and sale of GM foods. Comfort levels are also increased when consumers know they are able to access information online regarding safety assessments.

In the survey, respondents were asked two 'ballot' questions to assess their general openness to consuming GM foods. Prior to receiving any facts or information about GM foods, the assessment process or benefits, just one-quarter (26%) of respondents agreed that genetically modified foods are safe to eat and that they would be comfortable eating foods that had been genetically modified. After reading a series of facts and information about GM foods, respondents were asked about their level of agreement with these two statements and this rose to just over 40% in each case, a significant increase which can be attributed to exposure to this information. Specifically, analysis reveals that a combination of information relating to the approach to testing (including both the rigorous scientific process and the timeline), transparency about safety assessments, and linking Canadian processes and approaches vis à vis GM foods to international efforts, can help to shift views in a more positive direction.

From the focus groups, there was a clear consensus that international collaboration and comparisons to other countries, in terms of testing protocols and standards, is helpful, but to the extent possible, less focus should be placed on the U.S. as a comparator given the sense that their standards with respect to food safety and GM foods in particular are more lax.

MORE INFORMATION

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To obtain more information on this study, please e-mail por-rop@hc-sc.gc.ca

II. Introduction

Introduction

A. Introduction

The Strategic Counsel is pleased to submit this report on findings from a combined qualitative-quantitative study to assess Canadians' awareness and attitudes towards genetically modified organisms (GMOs). The detailed findings have been prepared in two parts, with separate sections containing findings from each of the qualitative and quantitative phases of this research program.

All components of the study were completed in March, 2016. A more detailed timeline is contained in Section II – Methodology, and all research instruments deployed in both the qualitative and quantitative phases are included in the Appendix.

B. Background

Biotechnology allows for the development of new food products through a variety of scientific tools and techniques. This includes the development of genetically modified (GM) foods, sometimes referred to as genetically modified organisms (GMOs). These new foods are part of what are referred to as novel foods in Canada.

Health Canada (HC) is responsible for ensuring that all novel foods, including those derived from biotechnology, are safe prior to their entering into the Canadian food system. Under the Canadian *Food and Drug Regulations*, it is Health Canada's responsibility to conduct rigorous science-based safety assessments prior to issuing a decision on the safety of these products. These assessments are based on international standards.

Past public opinion research conducted by Agriculture and Agri-Food Canada (AAFC) has indicated that Canadians are much more hesitant, compared to Americans, about the use of genetically modified animals in the food supply as opposed to genetically modified crops. This suggests that the introduction of these products in the Canadian marketplace could be more controversial relative to the genetically modified crops that have been and are currently being approved by Health Canada. Recent public opinion research has also highlighted that many Canadians do not have a clear understanding of the regulatory system or of the degree to which GM foods are rigorously assessed for safety prior to being allowed on the market. Although the public generally assumes there is some control over GM foods, they are not clear on how this is done. Lack of awareness and understanding affects their confidence in the food supply and raises their level of concern.

As this issue has raised some concerns among some consumers, Health Canada felt it would be useful to obtain a more up-to-date assessment of public opinion on this topic to better understand Canadians' knowledge, attitudes and behaviours towards food products derived from biotechnology, as well as consumers' reactions towards food products derived from genetic modification.

The results and findings from this research study are intended to inform measures that can be taken by the Government of Canada to address areas of concern for the general public such as knowledge and regulation of biotechnology applications.

C. Research Objectives

This research study was designed to address the following objectives:

- Assess public perceptions of the application of science and technology, overall, to the field of agriculture, food production and manufacturing;
- Ascertain general awareness of GM foods and the extent to which awareness and understanding affects their behaviour, specifically the degree to which it is a consideration when planning or shopping for food and food products;
- Assess public knowledge and attitudes regarding GM foods, including examining:
  - Level of knowledge of the science or scientific process behind the creation of GM foods;
  - Interpretation of various terms often used interchangeably in discussions about GM foods (i.e., biotechnology, genetic engineering, hybridization, etc.);
  - Overall perceptions of GM foods and key associations (i.e., types of foods and food products most commonly associated with GM foods);
- Identify the perceived benefits of GM foods as well as any questions or concerns related to GM foods; and
- Examine the degree to which facts, information and messages related to GM foods impact perceptions, attitudes and behaviours, specifically in relation to the perceived health and safety of these products and overall confidence/trust in the safety assessment process.

III. Methodology

Methodology

This research study was undertaken using a combined qualitative-quantitative methodology as described below.

A. Qualitative Component

Two groups of eight to ten people were held in each of five locations (Vancouver, Saskatoon, Toronto, Québec City and Halifax between March 9th and March 17th, 2016. In each location, one group was drawn from the general population, reflecting a cross-section of the local population in that center by age, education, household income, employment status and ethnicity. The other group consisted of parents of children under the age of eighteen. In addition to screening based on the age and number of children under 18 years, this latter group was also recruited to reflect a cross-section of the broader population in the same manner as the general population groups.

DATES AND LOCATIONS OF FOCUS GROUPS

LOCATION	DATE	TIME	GROUP NUMBER	COMPOSITION
TORONTO	Wed., Mar. 9th	5:30 p.m.	1	Parents of children under age 18 years
		7:30 p.m.	2	General population, aged 18+
VANCOUVER	Thurs., Mar. 10th	5:30 p.m.	3	Parents of children under age 18 years
		7:30 p.m.	4	General population, aged 18+
SASKATOON*	Mon., Mar. 14th	5:30 p.m.	5	Parents of children under age 18 years
		7:30 p.m.	6	General population, aged 18+
HALIFAX**	Tues., Mar. 15th	5:30 p.m.	7	Parents of children under age 18 years
		7:30 p.m.	8	General population, aged 18+
QUEBEC CITY* (in French)	Thurs., Mar. 17th	5:30 p.m.	9	Parents of children under age 18 years
		7:30 p.m.	10	General population, aged 18+

**Recruiting targeted both the urban core as well as the surrounding rural area in these locations.*

In all groups, a 50/50 gender split was aimed for. Additional details on the dates, location, timing and composition of the groups are provided in the Recruiting Screener included in the Appendix.

Two moderators conducted all the focus groups – one for all the groups which were moderated in English (4 of the 5 locations) and one for the groups conducted in Quebec City. Each group was a full two hours in length. A moderator's guide was developed in consultation with Health Canada and was deployed consistently in all discussions. The full guides (in English and French), including a participant exercise that was administered in the initial part of each focus group as well as the key facts, information and messages that were tested, can be found in the Appendix.

It should be noted that recruiters were transparent regarding the study sponsor – the Government of Canada – however, beyond this participants were given no specific information about the nature of the discussion.

This approach was taken to ensure a more representative approach to recruiting was undertaken and that individuals with a particular agenda related to food, food production and manufacturing, or GMOs were not alerted to the topic.

During the recruiting period and at the time that groups were being held there were no significant relevant incidents or media coverage which would have affected participants' viewpoints in relation to Health Canada, food safety or GMOs in particular.

B. Quantitative Component

A 15-minute online survey of n=2018 Canadians, aged 19 years and older was completed between March 24th and March 29th, 2016. The final sample includes n=571 parents of children under the age of 18. The remaining sample (n=1447) may also include parents, but these are not individuals whose children are currently aged 17 or younger.

The survey data was collected through an online survey using a non-probability sampling method and respondents were selected through the use of a representative online panel. Although research conducted via online panels does not follow the protocols for a random, representative survey (and as such will not have a margin of error applied to the results), soft quotas by gender, age and region were established in order to ensure that the final sample reflected, to the extent possible, census data on the distribution of the Canadian population by region and age. The final distribution is shown below:

DISTRIBUTION OF THE FINAL SAMPLE BY KEY DEMOGRAPHICS

CANADA				
Gender	**%**			
Male	49			
Female	51			
Age	**%**			
19-24	7			
25-34	20			
35-44	16			
45-54	19			
55+	38			
Region	**%**	**Break-out by CMA/Region**		
Atlantic	7	NFLD PEI NS NB	 Halifax CMA Balance of NS 	2% <1% 1% 2% 2%
Quebec	24		Montreal CMA Balance of PQ	12% 12%
Ontario	38		Ottawa CMA (ON only) Toronto CMA Balance of ON	3% 17% 18%
Manitoba & Saskatchewan	7		Winnipeg CMA Balance MB Balance SK	2% 1% 4%
Alberta	11		Edmonton CMA Calgary CMA Balance of AB	4% 4% 3%
British Columbia	13		Vancouver CMA Balance of BC	7% 6%

Although quotas were set for age and region, the final dataset was weighted by education to address a skew towards those with university degrees, which is an inherent issue with using online panels. The data reported in the tables and charts that follow reflect the results of this weighting.

A 17-minute questionnaire was designed and administered to all 2018 respondents. The final English and French surveys are included in the Appendix.

IV. Detailed Findings: Qualitative

Detailed Findings: Qualitative

As noted in the methodology (Section II of this report), a series of 10 focus groups were held, two in each of five locations across Canada, including Halifax, Toronto, Quebec City (in French), Saskatoon and Vancouver. In each location, one group was conducted among parents with children who are under 18 years of age, and another among a cross-section of the general population. Key differences by region and between the two groups (parents/general population) are highlighted in the sections that follow, as relevant, and summarized in the final two sections of this report.

A. Confidence in Canada's Food Safety System

Prior to any discussion of genetically modified foods, participants were asked to think about Canada's food safety system and indicate generally how confident they felt in this system. The responses to this question offer an important context in which to view the later discussion on attitudes and views related to GM foods.

Across all groups there was a consensus feeling that Canada has a reasonably robust and thorough food safety system, although a number of participants felt they lacked sufficient knowledge to accurately judge the food safety system.

"I don't really know much about food safety regulations."

"I don't read labels or anything, so I'm not really sure how to judge it."

However, those who had an opinion generally expressed modest to high levels of confidence. Their ratings took into account a number of factors and considerations:

- Comparison to food safety systems in other parts of the world lead to impressions that the Canadian system in more advanced and more rigorous;
- Few personal incidences of illness stemming from issues with food safety; and
- Relatively few recalls.

"I don't think it's perfect, but compared to standards around the rest of the world, I think it's pretty good."

"I've never been super-sick because of a food issue."

"I've never had food poisoning yet."

"I feel like it's pretty heavily regulated. The chances of me getting gravely ill are pretty low."

"The fact that we hear about recalls means the system is working."

"They are willing to shut down plants if necessary."

Any concerns raised usually centered on restaurant hygiene and, in particular, a perception that there may not be sufficient capacity in the system to conduct regular inspections. Some participants also harkened back to major outbreaks or to media coverage of specific food-related stories and incidents which still clearly carried significant weight when it came to how confident they were in the food safety system. In Toronto, for example, one participant referred to the *Listeria* outbreak which was traced back to a Maple Leaf meat packing plant in Ontario in 2008, while another pointed to a Toronto Star story about horsemeat appearing in food for consumers. Still others were concerned about the quality of food, pointing to concerns about the use of antibiotics, hormones and other potentially harmful additives.

"Sometimes the inspectors don't come out as many times as they should. And, in some restaurants, the inspector is friends with the manager or owner, so they let things slide. That's coming from my background having worked in restaurants."

"I feel that the Toronto Public Health inspectors provide a good service, but they are very stretched. There are more than 7500 restaurants in Toronto and just not enough inspectors."

"For me, it's not as much the inspections as the food processing. Look what happened at Maple Leaf. That was huge."

"I think of some of the scandals that have happened with meat companies. There was a controversy with A&P saying that they used antibiotics."

"I'm concerned about animal cruelty and contamination … the use of pesticides and artificial colouring in our food."

"My rating is based on the fact that there are a lot of chemicals and food additives. A lot of places have banned them – like the U.K. – but I feel like we haven't. Why aren't we doing this? And, sugar should be regulated."

Some also felt that if the food safety system were operating at 100% efficiency and effectiveness, it would be possible to eliminate food recalls entirely. At the same time, most participants did feel that government agencies handled food recalls expeditiously with a particular focus on alerting consumers quickly to any issues.

While relatively few participants mentioned GM foods at the outset of the discussion, the topic did come up occasionally and participants who were concerned about this issue were highly vocal. In Halifax, for example, one participant immediately raised concerns about genetically modified salmon, commenting that *"mass produced, larger than natural fish,"* left her feeling concerned that food was being tampered with in a way that was hazardous to consumers' health. Another was suspicious that Health Canada scientists might be in collusion with the genetic modification industry.

"I gave the food safety system a low score, because of the lack of forthrightness about the labeling of GMOs. I've also heard things which indicate that maybe we're not getting what we should be out of Health Canada. In other words, when scientists try to bring forward something that's not good for industry, they are told to shut up or they are going to lose their job. I think they're being silenced and we're not hearing the truth."

B. Factors and Considerations when Purchasing Food

The most important factor in making food purchase decision is price, followed by other considerations such as ingredients – seeking healthier options, place of origin (with Chinese products identified as being of some concern), expiry date, and brand/product familiarity. There was some interest in cosmetic issues and "healthy' choices, but price clearly was the dominant factor expressed.

A number of participants were interested in organic foods, aiming to avoid herbicides and pesticides, as well as local foods, although not necessarily the majority. For purchases of meat, some participants preferred to buy from a butcher, rather than a larger grocery chain, on the assumption that their local butcher likely had access to local, higher quality meats. Many were also regularly checking the Nutrition Facts table for information related to calories, fats, sodium, carbohydrates and sugars. Some were seeking to avoid certain ingredients – mostly food allergens (i.e., gluten, peanuts, etc.).

Parents with younger children did appear to make more of an effort to purchase fresh foods as well as organic options or foods with higher nutritional value (less fats and sugars), and fewer additives, although convenience and taste (i.e., what their children prefer) also weigh heavily into their decisions. It is clear that, at a certain point, parents find it difficult to influence their children's dietary habits.

> ***"I would like my son to eat more fruits and vegetables. We made baby food, when he was a baby, but now that he's 10, he eats a lot more processed foods."***
>
> ***When I shop for my kids, I look for freshness and the best before date. I'm concerned about preservatives in processed foods."***
>
> ***"My kids are picky eaters. You have to find alternatives that they will eat."***
>
> ***"Pour moi, je vais faire abstraction des valeur nutritionelles, mais pour mon enfant, je vais regarder plus."***

Notably, at this stage of the conversation very few participants mentioned GM foods as something they went out of their way to avoid when making food purchases. In every group, no more than one or two participants mentioned GM foods but those who did were quite vehement in their desire to avoid them.

> ***"Non-GMO and fair trade is really important for us."***

C. General Views on Science and Technology

The vast majority of participants did not have much scientific literacy, although it was usually the case in each group that at least one individual appeared to have a reasonable grasp of the implications of science and technology on agriculture, farming, food production and manufacturing.

There is little understanding of the extent to which scientific and technological developments have helped to modernize agriculture already and participants are reluctant to say whether, on balance, science and technology have been mostly beneficial or mostly harmful to food production. Many simply feel that technological advancements have permitted food production to become more commercialized, allowing

companies to produce and sell significantly higher volumes of food products and shorten the growing season, which aren't necessarily seen as always advantageous for consumers.

> *"I think mass production just makes people over-consume."*

When participants were asked to identify specific developments, mention was made of the more obvious advancements, including:

- Pasteurization;
- Hydroponics;
- Greenhouses;
- Preservatives – improving shelf life and product longevity; and
- Development of pest-resistant crops and grains.

While there is an acknowledgement that getting larger volumes of food products to market efficiently and cost-effectively is essential in a modern and growing industrialized nation like Canada, many are concerned about the harmful effects on health and the environment stemming from transportation, over-packaging, use of chemical fertilizers, pesticides and herbicides, the general "carbon imprint" and preservation techniques. There is also a sense that large companies are dominating the sector and that this is not necessarily in consumers' or farmers' best interests.

> *"We are making food to sustain life, but is it really the right way?"*
>
> *"Il y a des grosses compagnies qui ont le monopole et le contrôle. Ça élimine des choix. Comme Monsanto. Si tu n'achètes pas leurs grains, tu ne peux plus cultiver."*
>
> *"La pollution et la stérilisation des grains. Les fongicides et pesticides dans la terre… comme avec Monsanto qui ont changé l'intérieur des graines et que les producteurs sont obligés d'année en année. Ils n'ont pas le choix d'en racheter parce que les grains sont devenus stériles. »*
>
> *« I guess just huge corporations. I'm sure there's some Monsanto stuff here. Huge corp taking over and making food that they say is safe and isn't in my opinion. They know it's not healthy and it's full of sugar and making everyone obese and sugar addiction is a real thing… It plays into science and technology."*

D. Awareness and Understanding of GM foods

In every group, the majority of participants had heard of the term GMO/GM food, although most were unable to accurately explain the acronym in full. Many were unaware that the 'O' in GMO stood for 'organism.'

Before delving more deeply into the subject of GM foods, participants were asked to complete a short exercise which aimed to obtain their initial impressions of GM foods before they could be more influenced by the views of others in the group.

Based on their knowledge or impressions, participants rated GM foods on four specific measures, using a 7-point scale, where 7 was the most positive response, and 1 was the most negative. The opportunity to say 'don't know' (DK) in response to each question was also a legitimate option. The results of this exercise are shown below.

While the results are based on a small number of participants in total, and should be considered as directional only, they do reveal a few interesting findings:

- Most participants responded in the 'neutral to negative' range for most questions (i.e. a score between 1-4 on a 7-point scale);
- On virtually all questions, some participants in each group simply didn't know (DK). This number appears to be slightly higher in Quebec City, for both the parents and the general population groups;
- Assessments did vary somewhat between parents and the general population as well as by region, but not significantly; and
- It does appear, based on the average scores for each question (overall), that participants are most concerned about the impact of GM foods on the environment.

EXERCISE A: AVERAGE OF SCORES ON A 7-POINT SCALE IN EACH GROUP, BY LOCATION

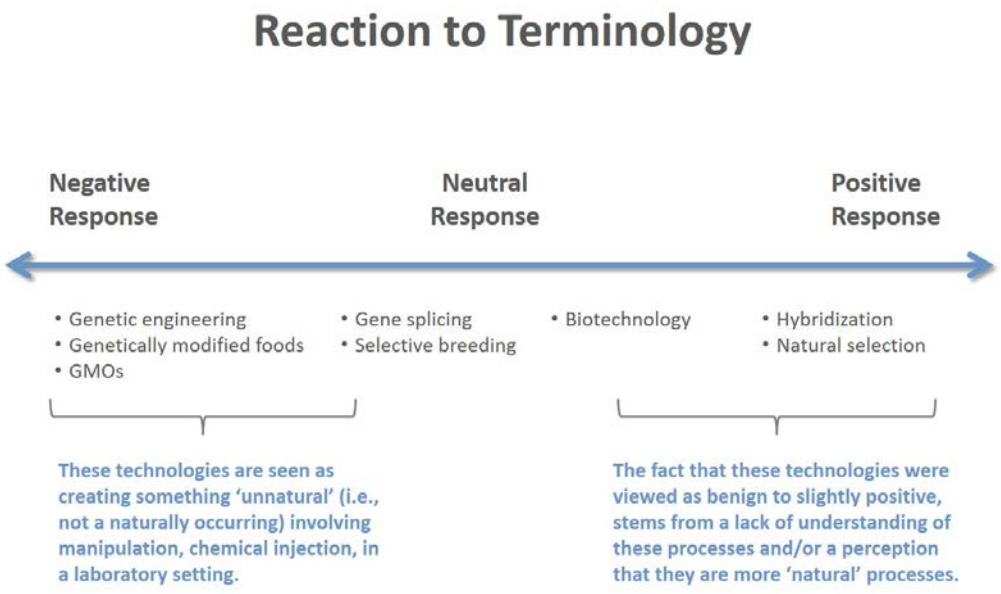
Location	Group	GMOs are bad/good for the environment	GMOS are harmful to/beneficial for our food system	GMOs are not safe at all/completely safe	I completely oppose/support the sale of GM foods
Halifax	Parents	3.5 (3-DK)	3.2 (3-DK)	3.9 (2-DK)	4.0 (4-DK)
	Gen Pop	2.8	3.9	3.9	3.5
Toronto	Parents	2.7 (1-DK)	2.9 (1-DK)	3.0 (2-DK)	3.1 (1-DK)
	Gen Pop	1.6 (2-DK)	1.6 (1-DK)	2.9 (2-DK)	2.6
Quebec City	Parents	2.4 (3-DK)	3.4 (3-DK)	4.3 (2-DK)	3.6 (2-DK)
	Gen Pop	3.4 (3-DK)	4.5 (2-DK)	4.3 (2-DK)	4.4 (3-DK)
Saskatoon	Parents	3.1 (2-DK)	3.3 (1-DK)	3.5	3.6
	Gen Pop	3.6 (3-DK)	2.4 (3-DK)	3.7 (2-DK)	4.4 (1-DK)
Vancouver	Parents	2.9 (2-DK)	2.8 (1-DK)	3.4 (1-DK)	3.1 (1-DK)
	Gen Pop	2.6 (3-DK)	2.8	2.9 (1-DK)	2.3
Average Across All Groups		**2.9**	**3.1**	**3.6**	**3.5**

Participants' depth of understanding about GMOs or GM foods (the latter being the more familiar and more commonly used term in discussions on this topic), was minimal. That said, in each group, at least one or two participants seemed to have a reasonable, if not complete, grasp of the science behind GM foods. In most cases, those who were more knowledgeable tended to have a better appreciation of some of the benefits of GM foods, but there was no clear sense that knowledge or familiarity generally correlated with more a more balanced view of GM foods. Among this small group of 'more aware' individuals in each focus group session, almost as many were strongly opposed to them as were supportive.

The phenomenon of word-of-mouth was noticeably evident in all groups. Those with a higher level of familiarity and/or more negative views about GM foods were readily able to influence the opinions of participants who were less confident in their understanding of the science or somewhat sceptical regarding the impact of GM foods on human health and the environment. In some cases, it was simply a matter of planting a seed of doubt in the minds of those whose opinions were less well formed. In many instances, those in the groups who were more out-spoken on the issue did not necessarily have all the facts in hand, yet their ability to articulately question the science and the motivations of corporations producing GMOs and GM foods was sufficient to prompt concern and to shift other participants from a position of neutrality to negativity.

1. Terminology

A brief discussion of the terminology suggests that there could be some confusion around various terms: GMO, GM foods, genetic engineering, biotechnology, etc. These terms are not necessarily viewed as interchangeable and some are viewed more negatively/positively than others. The diagram below summarizes the way in which participants tended to respond to each of the terms.



For the most part, participants' reaction to the various terms was based on nothing more than impressions and associations, often influenced by the highly negative public debate and dialogue that has been a constant aspect of the ongoing conversation over GM foods in Canada and around the world for 20+ years. For example, the term 'genetic engineering' was viewed in a significantly more negative light compared to 'biotechnology' or 'natural selection.' Participants often associated the term 'genetic engineering' with creating a product which would not otherwise occur naturally, rather than with strengthening or improving existing products.

"I can't explain it."

"I believe genetically engineered means that it is created from chemicals. It's creating something from nothing."

"It's any variation of a food that isn't 100% natural."

"Engineered is something done from scratch. Therefore, maybe it's something that's produced in a lab, as opposed to a slightly modified version."

"Engineering means more like testing … experimenting."

A general lack of scientific literacy was evident across all groups. Combined with what appears to be a yearning among consumers to return to a time when food was simpler (ergo healthier), participants instinctively view the application of science and technology to agriculture and food production with a significant degree of suspicion and concern. As one participant summed it up: *"Nature knows how to do its job … it has known way before we were here."*

2. Perceptions of GM foods

When the topic of GM food was explicitly introduced into the discussions, the standard reaction was either silence among those participants who weren't quite sure what a GMO was, or negative responses among those who had an opinion, whether that opinion was based on facts or simply impressions. The conversation about GM foods frequently brought forth the following descriptions and associations:

- Franken-foods or Frankenfish;
- Artificial/Fake;
- Man-made;
- Mass production/Higher volume food production;
- Mutations;
- Injections (hormones, chemicals, steroids, bacteria, germs);
- Oversized or larger food products, particularly fruits, vegetables and poultry which appear to be markedly larger in size, compared to what consumers may have been able to purchase a decade or more ago; and/or
- 'Perfect' food products, in terms of appearance (i.e., uniformity, brighter colours).

"You're blasting something into the seeds … an antibiotic resistant gene … you've got this Frankenfood."

"In my head, I just think mutant."

"It's altering something that's supposed to be natural."

"It's like a Marvel character, only food … meaning it's a mutant."

"It's anything that looks like it shouldn't be. I would think of James and the giant peach."

"The way they feed chickens … they give them syringes to make them bigger."

"I just think steroids and stuff."

"Items that are tampered with … We associate GMO with things that are not good, because they're fed bad stuff."

"It's a chemical concoction."

A range of food products are commonly associated with GM foods. Typically, these include:

- Fruits and vegetables – strawberries and tomatoes were most often mentioned based on what is perceived to be a dramatic increase over time in the size and more uniformity in the appearance of these products, along with cucumbers and cauliflower (orange/green varieties);
- Corn;
- Soy; and
- Poultry – a number of participants tended to associate mass-produced or factory-farmed chicken with GM foods.

Notably, few participants linked genetic modification to fish, although when the topic was discussed in more detail, farmed fish were assumed to be genetically modified because they were being given excessive amounts of antibiotics to prevent the spread of disease in tanks and small enclosures in which they were being raised. Some participants understood that genetically modified farmed fish were a means of producing larger fish, faster, although they were in the minority in all groups. Still fewer had any inkling that farmed fish might be fed genetically modified soy or canola in place of marine sources of feed.

Many participants believe that there is a nefarious business rationale behind the push to produce and market GM foods. Monsanto was mentioned at least once in almost every focus group by one or two participants, and always in a negative light, as the 'poster corporation' for GM foods, seen as forcing farmers to purchase Roundup Ready genetically modified crop seeds which are resistant to the Monsanto-produced herbicide Roundup. Those who mentioned Monsanto in relation to GM foods also spoke in a very concerned fashion about the obsolescence of certain strains of seeds.

"They force farmers to buy Roundup Ready Canola."

"Monsanto is doing that in order to sell their pesticide. They're making the seed resistant to their pesticide. The reason why GMOs are so bad is that they're growing these seeds with this one gene … those seedless things are really bad because if something hits that strain of corn, then that strain of corn is susceptible and is wiped out."

"I associate it with Monsanto, big corporations and corruption."

It is clear from the discussions that perhaps no other corporation is as closely associated with GM foods as Monsanto. Participants' comments underscored that Monsanto has been and continues to be the corporate focal point for the GMO-free movement. At the same time, some participants astutely identified the challenge of separating Monsanto's domination of the seed market from the science of genetic modification.

"There's a lot of entangled anti-corporate sentiment. Monsanto may be a terrible company, but people can't decouple that from the product. People have overstated some of the issues and can't separate the science of GMOs itself."

The extent to which the impetus for GM foods is perceived as directly linked to marketing efforts by food products and food service companies is also borne out in participants' comments which suggest that the products are a mainstay of the fast food industry and that they have been created specifically to alter the flavour profile and "enhance the taste" of some items, in order to create or boost consumer demand. For others, it was felt that GM foods offered companies an opportunity to introduce entirely new products to the market and create consumer demand for products which didn't previously exist. To this point, products such as grapple – combined grapes and apples – lemon/orange hybrids and seedless watermelons were offered as examples.

What is ultimately clear from consumers' comments in the focus groups is that there is considerable mistrust and suspicion of the motives of companies producing GM foods. Many participants felt that corporate greed and the desire to increase profits, with little regard to the impact on consumers, was behind the growth in GM food products currently available.

"It feels manipulative. It is a marketing strategy to make things look better."

"I think it is corporate greed. You make more, you sell more."

"I would say it's food that looks like food, but it was altered, possibly to increase the profit of the manufacturer, packager, distributor and very highly likely that it's harmful to the body."

3. Perceived Risks and Benefits Associated with GM foods

Participants were better able to articulate their concerns about GM foods, although a number did appear to have some understanding of the benefits. The chart below summarizes the most frequently identified risks and benefits associated with GM foods.

SUMMARY OF PERCEIVED BENEFITS AND RISKS ASSOCIATED WITH GM FOODS

Perceived Benefits	Perceived Risks
• Higher yields • Shorter growing season • Faster to market • Ability to grow crops under harsh conditions (i.e., drought resistant) • Ability to withstand long distance transportation • Longer shelf life (this is also viewed as a negative to the extent that preservatives are added to the product to lengthen its shelf life) • Ability to minimize or eliminate seasonality in food production (i.e., produce certain products year-round)	• Unknown health impacts (many feel that there is insufficient evidence of a longitudinal nature to be able to say definitively what the health impacts of GM foods are) • Impact on the environment (most often in terms of erosion of soil quality, destruction of plant or seed varietals and negative long-term effect on biodiversity)

In almost all locations, with the exception of Saskatoon where the issue was debated more vigorously on both sides, most participants felt that the process of genetic modification of foods generally favoured quantity over quality. Many felt that GM foods were associated with an inferior quality of food (primarily in terms of taste (i.e., "bland"), rather than nutritional content) and that the quality of food was being sacrificed in the interests of mass production.

The following quotes summarize the concerns and questions expressed by many participants in each location. Parents in particular were most anxious about the impact on their children of consuming GM foods during their formative years, and for an extended period of time, but others simply felt there wasn't sufficient information at this time to fully appreciate the long-term effect of GM foods on human health and the environment.

"It's an issue because you don't know what the outcome will be when you are playing with genetics."

"How does it affect your child's growth? Could it cause autism?"

"How can any use of chemicals not have a side effect? Why do doctors say to eat organic foods?"

« Ça peut modifier la génétique de générations en générations. »

"What does it do, and what is being done to the food?"

"I guess it's the fear of the unknown."

Suspicions about GM foods were often based on anecdotal information and perceptions about how the food supply has changed over time. At the very least, there was a sense that the quality of food has declined. At its worst, a number of participants linked the increased incidence of gluten intolerance and other food allergies in the general population, as well as increased rates of cancer, to changes in our diet. Their assumption was that increasing consumption of GM foods was a key factor.

"When I was younger, there was a lot more nutritional value in the foods I was eating. Now I have to take a supplement of some sort to get everything I need."

"When I was a kid, we never heard of other kids with peanut allergies."

"From my experience, just eating completely organic, I never had any allergies. When I started eating GMOs, even without knowing it was GMO, I started to have a lot of allergies. I realized maybe it was because of the type of food. Then I walked away from this and now I'm not having as many problems."

In most groups, several participants expressed particular concern about what they perceived to be a probable loss of biodiversity linked to GM foods. Concerns were raised not only with regards to the creation of monocultures, resulting from genetically uniform mass-produced crops, but also about how GM foods could be affecting or interacting with other parts of the eco-system or surrounding environment. Although many were unable to clearly articulate a cause-effect, they had heard something about the impact of GM foods on bees (in Saskatoon) or monarch butterflies (in Toronto) which left them with a sense those GM foods were damaging to the environment.

"There is research showing that GMO crops may be responsible for the decline of the bee population."

"We just don't know what the effects are. For example, corn planted in a field affects the biodiversity. It affects the other plants and animals. I heard something about the monarch butterflies. I think it was affecting their migration route. And, if farm fish get out, they will affect the wild fish."

"I find that in North America, the type of crops they grow are very homogenous compared to other parts of the world. I watched a food documentary and they used bananas as an example. There's only one type of banana now grown in 90% of the world."

"It's destroying biodiversity and going to create an environment where we're going to have nothing to eat but genetically modified food. You have situations where this is good reason to believe that GM food is harmful and Monsanto is taking their billions of dollars and suing people out of existence. That tells me they have something to hide. Until they have a long-term study, I want nothing to do with it."

There were a few defenders of GM foods in some of the groups (Saskatoon and Halifax in particular), although they were always heavily outnumbered by anti-GMO participants and by those who simply didn't have a strong opinion, but whose tendency was to be cautious and generally weigh in on the opposing side. The arguments expressed by the minority 'pro-GMO' group typically focused on the benefits of higher yields and the ability to provide food to a growing population, although there was a sense that this benefit was more relevant to the developing world but a less urgent or compelling requirement in the Canadian

marketplace. Even among those few participants who put forward the arguments in favour of GM foods, most also shared some concerns with respect to the impacts of GM foods on crop diversity.

> ***"I'm a fan of genetically modified foods because they allow crops to survive longer … The insertion of vitamins into crops … and, from a yield standpoint, it's very difficult to say it's not beneficial."***
>
> ***"Crops and grains are pest resistant. On the Prairies, genetic modification has resulted in a hybrid type of wheat and this has been positive. But, I am concerned about reducing diversity … that's a negative."***

A number of factors appear to be working together to cause confusion and, more frequently, negative initial impressions or perceptions about GM foods:

- The lack of understanding of the scientific basis for GM foods and, specifically, the extent of R&D undertaken;
- Overwhelming negative messaging on the topic, most often shared via social media (food bloggers);
- The movement towards foods which are "natural," "organic" or "grown locally;"
- Uncertainty about the long-term impacts of GM foods, particularly for human health;
- General mistrust of large corporations (the examples of the tobacco and pharmaceutical industry are often raised to underscore that past history has shown companies will persist in marketing known harmful products to consumers well past the point when evidence suggests they should be pulled from the market, in the interests of increased profits); and
- A perceived trend to increased allergies or intolerances among the population, and particularly among children and youth, which is attributed mostly to changes in the food supply.
- Notably, and as alluded to above, there was no clear consensus among participants with respect to the relative nutritional value of GM foods versus the non-GMO equivalent. On balance, many participants instinctively believed that 'natural' foods were invariably more nutritious than their genetically modified counterparts, although others assumed that the GM food likely would have been specifically "*modified to be more nutritious*." For many, this is an aspect of GM foods which is not top-of-mind or consciously considered when weighing the pros and cons and there may be an opportunity to raise public awareness around the application of biotechnology in producing nutritionally advantageous food products. Given the prevalence of food allergies, based on the number of participants who indicated either they or their children had some kind of food-based allergy, there may also be interest in knowing that genetic modification is being undertaken in the testing phase to develop foods that are potentially free of allergens.

4. Sources of Information about GM foods

Social media, particularly food bloggers but also pre-roll advertising and dedicated Facebook pages that have been established to raise awareness about GM foods and/or share the anti-GMO message, were frequently cited as a key source of information by many participants. Indeed, a quick search online reveals

numerous Facebook groups at both the national and provincial/territorial level dedicated to raising awareness about GMOs (https://gmo-awareness.com/resources/anti-gmo-groups-in-canada).

Participants also frequently mentioned documentaries, specifically those available on Netflix, as another source of information about GM foods, including:

- Cooked (while this series does not directly address the issue of GMOs, it does focus on 'traditional' foods and cooking techniques);
- Fast Food Nation
- Food Inc.
- GMO-OMG
- The World According to Monsanto
- That Sugar Film
- Supersize Me

In addition to hearing about these issues, from time to time, in the traditional media (mostly TV), the proliferation of information on food, diet, dietary trends and GM foods on the Internet has been a significant factor in shaping public opinion on this topic. For the most part, what participants are hearing about GM foods is negative if not alarming. Much of what they hear and see is taken at face value although some do acknowledge that those speaking out against genetic modification may be doing so as a *"scare tactic."* Nevertheless, on balance, the information participants have received about GM foods tends to further raise suspicions and concerns. In general, those speaking out are viewed as reasonably credible – *"I don't see any other aim behind the documentaries than to expose what we don't know"* – although participants were also quick to say that they took note of the sponsor or producer.

As a final point, some also take their cues on GM foods from advocacy groups and media reporting regarding restrictions on their sale in various European Union countries. Again, their understanding of the issue is neither deep nor nuanced and the perception is that the EU has banned the cultivation and sale of any and all GMOs, whether for food or feedstock.

5. Views on Restriction and/or Labeling of GM Food Products

Most participants felt that GM foods were widely available in Canada today. The general consensus across all groups was that many fruits and vegetables, which were not labeled or identified as organic, were probably genetically modified in some way. Additionally, products containing or made from grains, such as cereals, were also thought to be genetically modified.

While few participants expressly sought to purchase non-GM foods, when asked at the outset of the discussion what they took into consideration when selecting various types of foods and food products, there was overwhelming consensus that consumers have a right to know if a food has been genetically modified.

Based on participants' comments, consumers want the information so that they can be aware and educate themselves.

In particular, if any restrictions were to be placed on the sale of GM foods in Canada, some felt that the focus should be on baby foods specifically. Otherwise, many could not think of any other types of restrictions. And, although the assumption is that much of the food available in grocery stores today is genetically modified, the vast majority of participants preferred much stronger regulation of GM foods in the form of mandatory labeling. Voluntary labeling was quickly dismissed by most participants as an option because it was felt that it would not be in a company's economic interests to participate in a voluntary process.

At the same time, many felt that labeling of products would not alter their food purchases. Ultimately, price and availability of products were the driving factors in terms of selecting food products, although it was felt that consumers should have an opportunity make decisions based on transparency, facts and information.

E. Response to Facts and Information about GM foods

Participants were given a series of 12 statements containing facts and information about GMOs, specifically in regards to the testing and approvals process in Canada, as well as the regulatory environment. A significant portion of each focus group was devoted to reviewing these statements with participants to determine the extent to which each:

- Is clear and easy to understand, including identifying words or phrases that may be unclear, confusing or misinterpreted;
- Does or does not help to reassure the public with respect to any health or environmental concerns related to GM foods; and
- Presents a compelling rationale or underpinning for the development, production and sale of GM foods in Canada.

Each statement was reviewed and discussed on its own, followed by a review of the statements, in their entirety, to determine which ones (or aspects of each) had the most impact on participants. The statements are shown in the table below along with a summary of the feedback received from participants.

FEEDBACK FROM FOCUS GROUP PARTICIPANTS ON KEY STATEMENTS REGARDING GM FOODS

Statement	Feedback from Participants
(1) Scientists have concluded that genetically modified foods pose no more risk to human health than conventional foods. In fact, foods from genetically modified plants are subject to a far higher level of regulatory oversight and of scientific	• Participants reacted positively to this statement. • Two aspects of the statement in particular catch their attention: 'genetically modified foods pose no more risk to human health than conventional foods' and 'each new GM crop is subject to a thorough and robust food safety assessment.' While the reference to 'no more risk' is somewhat disconcerting, underscoring the rigorous safety assessment process is important to reassuring the

requirements than traditionally bred plants. Each new GM crop is subject to a thorough and robust food safety assessment before it is allowed on the Canadian market.	public. • There are, however, questions about the scientists conducting the testing: Who are they? Who do they work for? Who is paying their salaries? What kinds of tests are being done? • While the statement was viewed positively and found to be reassuring, participants nevertheless felt that it did not negate the need to label GM foods as such.
(2) Foods from genetically modified plants authorized to date are as safe and nutritious as foods from traditionally bred plants. Nutritional assessments for foods from genetically engineered plants that have been evaluated by the Government of Canada through our safety assessment process have shown that GM foods are generally as nutritious as foods from comparable traditionally bred plants.	• Participants got caught up on the reference 'to date' in the first sentence. It played into the concerns they expressed earlier in the discussion that the long-term effects of GMOs were still unknown, and the use of this term was less than reassuring. • The fact that GM foods are 'generally as nutritious as foods from comparable … plants' did not do much to bolster confidence and, in fact, led to some questions about the nutritional value of conventional foods for sale. The inclusion of the term 'generally' introduces an element of uncertainty that then leads participants to question what GM foods might be less nutritious relative to the conventional counterpart.
(3) All GM crops and their products are subjected to a rigorous environmental, livestock feed and food safety assessment before they move into the marketplace. Scientists from the Government of Canada are responsible for a critical review of the data collected from laboratory and field experiments conducted by the proponent.	• Participants respond well to the inclusion of several additional pieces of information in these statements: 'environmental,' and 'scientists from the Government of Canada.' • However, concerns are raised about the data being provided by the proponent and there is an expectation that the Government of Canada should be gathering its own data, and conducting neutral, unbiased assessments rather than relying on the results of testing provided by the company that stands to profit from approval of its GM products.
(4) Before it can sell any genetically modified (GM) food in Canada, a company must file a pre-market notification with the Government of Canada, which triggers a comprehensive safety assessment to ensure the food is safe and nutritious. This assessment is carried out by a team of molecular biologists, toxicologists, nutritionists, chemists and microbiologists who use international standards as their guide.	• Participants are uncertain about the 'pre-market notification process,' specifically what is involved, how long it takes and how the process rolls out. • Most participants were reassured to know that an extensive team of scientists ('molecular biologists, toxicologists, nutritionists, etc.') were involved in the assessment process. Providing more information on who is involved in the assessment is clearly helpful. At the same time, some questioned why toxicologists would be involved in the assessment unless there was a risk that the products were in fact toxic. This tended to raise some alarm bells but, on balance, most participants felt more confident. • The reference to 'international standards' did little to reassure participants without offering more details.
(5) The approach taken by the Government of Canada in the safety assessment of GM foods is based upon scientific principles developed through expert international consultation over the last twenty years with agencies such as the World Health Organization (WHO), the Food and Agriculture Organization of the	• Positioning the issue on an international/world-wide scale is helpful for participants. This series of statements boosted participants' confidence in Canada's approach to testing GM foods with references to 'international consultation' specifically citing collaboration with the WHO, FAO and the OECD – all highly regarded organizations. • The fact that consultation has been occurring over a 20-year period was also surprising and reassuring, as many feel that Canada is only recently coming to grips with the GM food movement.

United Nations (FAO), and the Organization for Economic Co-operation and Development (OECD). The approach taken by Canada is currently applied by regulatory agencies around the world in countries such as the European Union, Australia/New Zealand, Japan, and the United States.	• Many participants responded positively to the fact that the approach taken by Canada is also being adopted by other countries, especially the reference to the EU which is viewed as taking the most rigorous approach to consumer safety on GMOs. However, including the U.S. in the same list tends to mute positive responses as the U.S. is viewed as being fairly lax on food safety generally and GMOs specifically. • It would be even more reassuring if this statement was rephrased in a more simple, direct manner (i.e., the Canadian approach has been adopted by OR Canada works closely with other countries with equally rigorous regulatory regimes) – phrasing which more clearly expresses the fact that Canada is among leading edge countries in this area.
(6) The Government of Canada is committed to transparency and evidence-based decision-making. A summary of the Government of Canada safety assessment for every GM food is available online.	• Participants were surprised and pleased to know that they could access safety assessments online. However, some wondered how consumer-friendly these would be. • The commitment to transparency is appreciated and expected. • There was a general consensus that the Government of Canada should promote this fact more widely.
(7) It typically takes a company seven to ten years to research, develop and test a GM food before it has compiled enough data to submit a pre-market notification for a GM food to the Government of Canada.	• The 7-10 year timeline added to participants' comfort level (and was particularly reassuring in light of the 20 years of ongoing international collaboration and consultation). Together these figures underscore the effort that goes into testing and the commitment to consumer safety.
(8) The Government of Canada is responsible for ensuring that all foods available on the Canadian market - including those derived from biotechnology - are safe. The Government of Canada takes a cautious, case-by-case approach, employing the best practices and current international scientific evidence to determine if a GM food should be permitted for sale.	• These statements were viewed as very generic (i.e., motherhood). • Some picked up on the 'case-by-case' approach, but others overlooked this aspect of testing as well as the reference to best practices. • These statements meant little to participants without further details on what best practices are being employed, and more reassurance about the source of 'current international scientific evidence.'
(9) Because GM food is a worldwide issue, the Government of Canada's cooperation with international counterparts and organizations is vitally important to share knowledge and address the challenges that new technologies present. By building on existing international collaborations in scientific and regulatory areas, Canada is better able to more effectively regulate GM foods.	• Participants favoured 'international collaboration' and 'cooperation with international counterparts,' however these statements were generally seen as lacking in specifics.
(10) Currently, food manufacturers may indicate through voluntary labeling whether foods have or have not been	• These statements were confusing to participants and they questioned how food manufacturers could be held accountable to ensure that labeling is 'truthful and not misleading.'

developed through genetic engineering, provided that such labeling is truthful and not misleading. This is consistent with the approach taken in other countries, including the United States.	• Fundamentally, most disagreed with the voluntary labeling approach and the fact that this was consistent with what is being done in the United States did not do anything to further reassure participants that this approach was workable or useful for consumers. • These statements play into participants' perceptions that the GM business is really motivated by profits.
(11) Special labeling is mandatory for all foods, including GM foods, where significant nutritional changes or clear scientifically established health risks exist and can be mitigated by labeling. To date, the Government of Canada has not identified any health and safety concerns that would require the mandatory labeling of any GM foods assessed by the Department.	• These statements raise many more questions and concerns than they answers. For example, how significant do the risks have to be before mandatory labeling is required? And, if a GM product doesn't contain a higher nutrition value than its non-GM counterpart, then what is the point of producing it? • While participants feel it would be critically important to flag any health risks via labeling, they wonder why the product wouldn't be pulled from the shelves if this was the case. Without further explanation, it is not clear to participants that there may be contra-indications for certain consumers (i.e., those with allergies or certain conditions) and that these should be clearly indicated on the food packaging.
(12) Consumers wishing to avoid consuming foods that may be derived from a genetically modified source may do so by choosing foods that indicate that they are not products of genetic engineering.	• This statement is also somewhat confusing for participants. The idea of avoiding GM foods by choosing foods that are not products of genetic engineering seems a bit perplexing given that foods are often not labeled as GM or non-GMO. • They also felt that this statement was in direct contradiction to statement #10 which suggests that labeling is voluntary, ergo consumers would have difficulty knowing which foods are GMO/non-GMO. • Participants were also confused by the use of the terms 'genetically modified' and 'genetic engineering' which they do not interpret as being the same.

It was challenging with any of the statements or key messages that were tested to overcome the deep level of cynicism and negativity that pervades views on GM foods. The challenge for Government in any communications on this topic is the considerable lead time that many anti-GMO advocacy groups have had in terms of occupying the public mindset on this issue, combined with the general movement in favour of 'natural,' 'organic' foods.

Nevertheless, some key facts and information do have a consequential impact on shifting participants' views from slightly less sceptical or negative to more neutral, including the following:

- Involvement of the Government of Canada/Health Canada in the testing, evaluation and approval process;
- Emphasizing the rigorous testing protocols;
- Referring to a range of scientific experts (molecular biologists, geneticists, etc.) who have responsibility for reviewing and evaluating test data (note there is some concern when toxicologists are included in this mix);

- Underscoring the commitment to transparency and the availability of study results online;
- Emphasizing collaboration and consultation with international agencies (FAO, OECD, WHO) as well as with other countries (although some feel that U.S. data/test results are insufficient given the perception that the U.S. has lower food safety standards than Canada);
- Making reference to the 20 years' worth of data and/or international consultation and the 7-10 year timeframe to bring test results to Government of Canada; and
- To the extent possible, positioning Government of Canada scientists, evaluations and testing as independent and unbiased. The funding for R&D needs to be openly declared.

A key concern expressed by many participants was the reliance by Government of Canada scientists on 'proponent' data and results. Even when the comparison was made to research and development as well as testing and clinical trials in the pharmaceutical industry, participants remained unconvinced that a similar process would be acceptable when it comes to approving GM foods. The main issue appears to be a lack of trust in the corporations bringing forward the GM food product for approval as well as the fact that access to non-GM food is seen as a 'right.' Participants also felt that the comparison to the approach taken in testing and approving both prescription and non-prescription drugs was somewhat unfair. Consumers have little choice but to purchase the foods available in grocery stores and markets while the use of prescription drugs is viewed as less of an 'everyday' occurrence or necessity.

F. Key Differences between Parents and the General Population

There were very few differences in the attitudes of parents relative to participants in the general population groups. Almost as many parents as other participants raised issues related to GM foods as a concern when purchasing food and in relation to the impact of science and technology on food production.

G. Key Differences by Focus Group Location

As mentioned above, there was surprisingly little difference amongst the five focus group locations, with the possible exception of Saskatoon. Often one might expect more variance, due to regional concerns and the often presence of a few out-spoken participants in a group.

Saskatoon. The participants in Saskatoon were more predisposed to think favourably of GM foods compared to participants in the other locations. There was also a difference between the two groups in Saskatoon. The general population group was neutral to positive about GM foods. While the parents' group was neutral to negative, they did respond to more information on the subject by moving in a more neutral to positive direction by the end of the discussion. It should be noted though that this latter group retained their health concerns over possible long term effects of ingesting GM foods, and real concern over the independence of testing.

A real issue in Saskatoon was the impact of the issues and practices surrounding Monsanto seeds as well as clear cynicism about corporate motivations and related to some GM food manufacturers. Notably, participants understanding of agricultural practices was not markedly different (or higher) than other

locations. A specific communications issue that surfaced in Saskatoon was the strong influence of social media and food bloggers – The Food Babe, in particular.

Halifax. The views expressed in Halifax were similar to those in other locations, with a few specific nuances. Clear concerns were raised about cancer and allergens, but no one suggested any sort of direct cause and effect – it appeared to be more of an emotional worry based on anecdotal rather than scientific evidence. Participants seemed to be primarily concerned that food production has evolved to a point where many foods are now not considered 'natural'.

In addition to these worries about the unknown, participants in Halifax were more inclined to believe that they are already eating GM foods, and they had a very strong predisposition toward mandatory labelling.

Quebec City. The views expressed in this location were again similar to the others. Clear confidence was expressed in Canada's food safety system, as well as comfort with the role of science and technology in agriculture. There was also a discussion around food quality from a culinary point of view, and this may be a result of the influence of quality agriculture and gastronomy in the Charlevoix and L'Estrie. Participants in this location appeared to be more moved, in a positive direction, from the information and facts provided during that part of the session in which the twelve statements were reviewed and discussed.

V. Detailed Findings: Quantitative

Detailed Findings: Quantitative

The results reported below reflect the findings from a survey of 2,018 Canadians. Variations by region and key demographics (i.e., gender, age, educational status, language, etc.) are shown for each question. Other variations, for example based on knowledge or perceptions of GM foods, are also reported on as relevant.

A. Confidence in the Food Safety System

Canadians express reasonably high levels of confidence in Canada's food safety system.
Two-thirds (66%) say they are confident in the system that is responsible for protecting Canadians from preventable food hazards and for managing any food safety emergencies, with one-in-ten (11%) offering the highest rating possible (7 on a 7-point scale of confidence).

LEVEL OF CONFIDENCE IN CANADA'S FOOD SAFETY SYSTEM

Level of Confidence (Scale of 1-7)	TOTAL	GENDER		AGE				EDUCATION			LANGUAGE			PARENTAL		REGION					
		Male	Fe-male	19-34	35-44	45-54	55+	HS or less	Coll-ege	Uni-versity	English	French	Other	Yes	No	ATL	ON	PQ	MB/ SK	AB	BC/ North
n=	2018	981	1037	542	335	392	749	861	585	504	1513	450	93	571	1447	143	769	488	144	221	252
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Not at all confident.../1	1	1	1	1	1	1	1	<1	1	1	1	1	2	<1	1		<1	1		1	2
.../2	2	2	2	2	1	3	2	3	1	1	2	3	1	1	2	<1	2	3	1	3	2
.../3	4	5	4	7	3	3	4	5	3	4	5	1	5	6	4	7	6	1	5	4	5
Moderately confident.../4	26	24	28	27	28	23	26	29	24	23	26	24	34	23	27	30	23	26	29	33	29
.../5	27	26	29	27	27	29	28	27	27	31	27	30	21	27	28	26	26	29	28	23	32
.../6	28	30	26	26	29	27	29	24	33	29	28	27	30	30	27	28	30	27	26	28	23
Very confident.../7	11	12	11	11	11	14	10	12	11	11	11	14	8	12	11	9	13	13	11	8	7
TOP 3	**67**	**68**	**66**	**64**	**66**	**70**	**67**	**63**	**71**	**71**	**66**	**71**	**59**	**69**	**66**	**63**	**69**	**69**	**65**	**60**	**62**
.../7	11	12	11	11	11	14	10	12	11	11	11	14	8	12	11	9	13	13	11	8	7
...5/6	55	56	55	53	56	56	57	51	60	59	55	57	51	57	55	54	56	56	54	51	55
.../4	26	24	28	27	28	23	26	29	24	23	26	24	34	23	27	30	23	26	29	33	29
.../2/3	6	7	6	9	4	6	6	8	4	5	7	4	5	8	6	7	7	4	6	7	7
.../1	1	1	1	1	1	1	1	<1	1	1	1	1	2	<1	1		<1	1		1	2
BOTTOM 3	**7**	**8**	**6**	**9**	**5**	**7**	**7**	**8**	**6**	**6**	**8**	**5**	**7**	**8**	**7**	**7**	**8**	**5**	**6**	**8**	**10**

Q10. Overall, how confident would you say you are in Canada's food safety system ... the system that is responsible for protecting Canadians from preventable food safety hazards and managing any food safety emergencies?

Confidence in the food safety system is quite widespread, with 60% or more in any given demographic or region reporting at modest to high levels of confidence. Thus, variations in confidence are relatively minor, although a few differences are notable:

- Those with college or university education (71%) exhibit slightly higher levels of confidence than do those with high school education (63%);
- Francophones (71%) are somewhat more confident in the food safety system as compared to Anglophones (66%); and

- Residents of Ontario (70%) and Quebec (69%) exhibit the highest levels of confidence in the system, while those in British Columbia (62%) and Alberta (60%) exhibit lower levels of confidence.

B. How Consumers Make Decisions When Selecting Food Products

1. Considerations When Shopping for Food

Respondents were asked to identify, from a list shown, up to three factors that they take into consideration when shopping for food. This question was posed to all respondents regardless of whether they were the primary shopper in their household (about 64% of respondents indicated that they did most or all of the shopping and food preparation in their household) or shared this responsibility jointly (another 36% indicated that they did only some or none of either of these tasks in their household). In line with the findings from the focus groups, price is identified most often as a key consideration (76%), followed by familiarity with the product (42%) and nutritional content (40%). Fewer respondents mentioned considerations such as brand (22%), convenience (19%), locally grown/raised (19%), origin (16%) or whether the food was produced without the use of hormones or antibiotics (14%). Just 12% of respondents identified foods that do not contain ingredients derived from GM foods as one of the three factors they take into consideration.

TOP 3 CONSIDERATIONS WHEN PURCHASING FOOD (%)

Consideration	… for the household			… for children***
	Total	Parents*	Others**	
	(n=2018)	(n=571)	(n=1,447)	(n=447)
Price	**76**	**77**	**75**	**58**
Familiarity with the product	**42**	**41**	**42**	**27**
Nutritional content	**41**	**42**	**40**	**49**
Brand	22	22	22	16
Convenience in terms of food preparation	19	21	19	22
Locally grown or raised	19	16	21	12
Where the food was produced or made	16	11	19	9
Food was produced without the use of hormones or antibiotics	14	18	12	23
Food does not contain an ingredient derived from a genetically modified organism	12	11	12	15
Food was produced in a socially, economically and environmentally responsible way	7	8	7	8
Food is identified as natural, free-range or grass-fed	7	8	6	12
Food is certified as organic	6	5	6	12
Food was not factory farmed	3	3	3	4
None of these considerations are important	1	<1	1	2

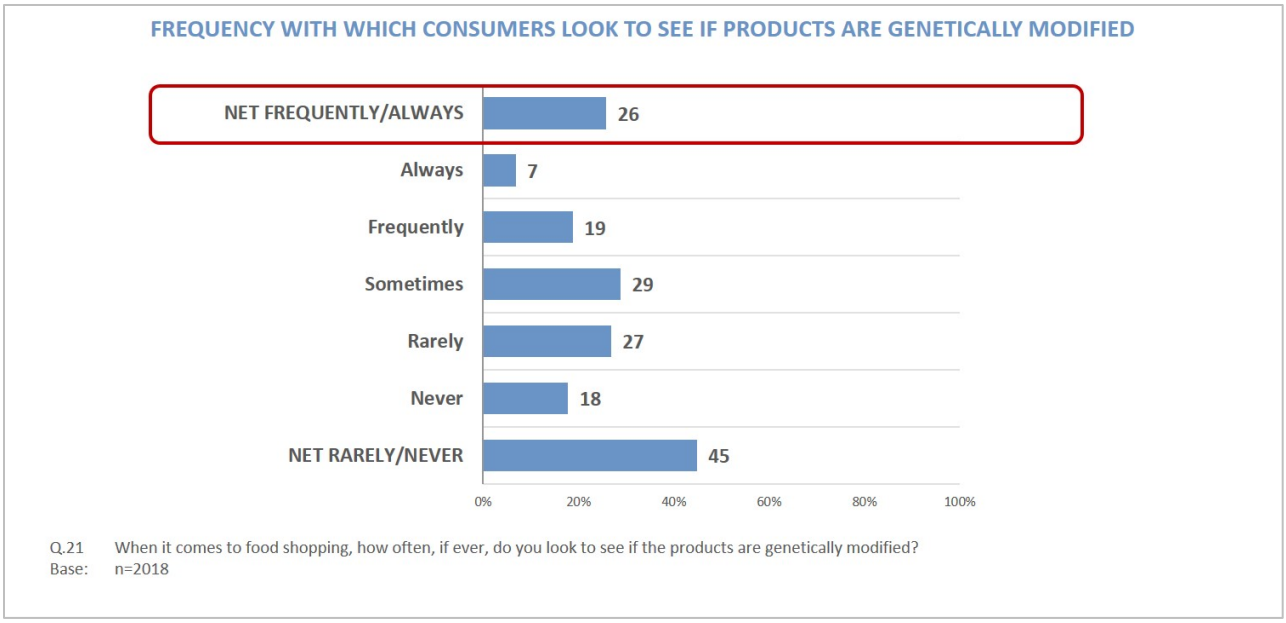
*Responses of parents with children under age 18 in their household
**Other respondents who may have children, but did not self-identify as having children under age 18 in their household.
***Responses of parents with children under age 18 in their household, excluding those who indicated their considerations were no different whether shopping for themselves or for their children (21%).

Responses vary somewhat when asked about the primary or top three considerations when purchasing food for their children (among that portion of respondents who have children under the age of 18 in their households), although 21% did indicate that the factors they take into consideration would be no different.

For those parents with children under age 18 who indicated their considerations would be different, there is a tendency to place greater emphasis on nutritional content (49% cited this as a consideration when shopping for their children versus 42% of this same group who identified this as a consideration when shopping for food for the household/themselves), and looking for foods that are produced without the use of hormones or antibiotics (23% versus 18%). Foods identified as natural, free-range or grass-fed (12% versus 8%) or that are certified as organic (12% versus 5%) are also more important considerations for parents when shopping for their children.

Price and product familiarity remain among the top three most frequently cited considerations for parents when shopping for their children, but these are not cited with the same frequency relative to their importance when shopping for themselves or the household in general. Similarly, brand and origin appear to be of lesser concern.

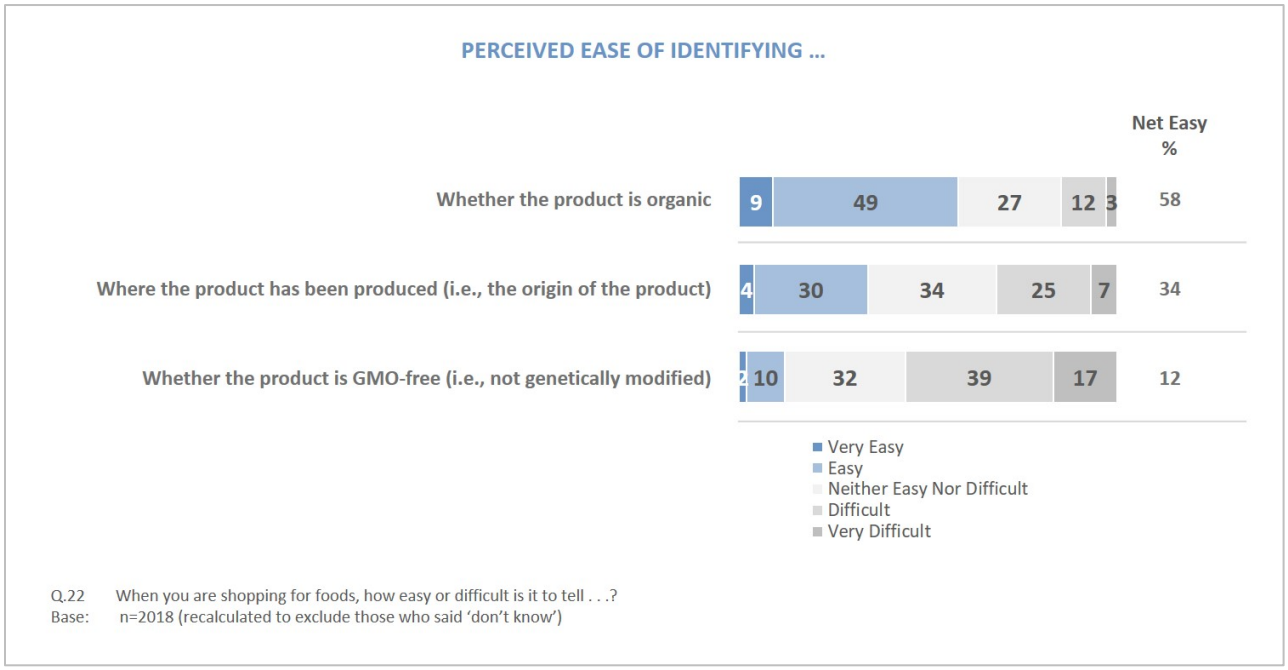
At a later point in the survey, respondents were asked more directly how often, if ever, they checked food products to see if they were genetically modified. Consistent with the above findings, relatively few consumers do look for any genetic modification identification – just over one-quarter (26%) say they do so either frequently (19%) or always (7%). Most say they look to see if products are genetically modified sometimes (29%), rarely (26%) or never (18%).



Parents with children under age 18 in their household (31%) are somewhat more likely than those without children or whose children are older/not living at home (24%) to be looking for any indication that a product has been genetically modified.

A key reason why consumers are not checking to see if products have been genetically modified may have less to do with consumer interest or concern and more to do with the fact that it is significantly more difficult to identify GM foods, relative to determining whether a product is organic or where it has been produced.

While consumers find it relatively easy to determine if a product is organic (58% say it is easy), they find it considerably more difficult to identify where a product has been produced (almost as many say it is easy (34%) as say it is difficult (32%) and, particularly, whether a product is GMO-free. In the latter instance, just 12% of consumers say they find identifying GMO-free products easy. By contrast, over half (52%) find it difficult, and almost one-in-five (17%) say it is 'very difficult.'



The results shown in the chart above are common across all groups, although those aged 55 and older are more inclined to say they find it difficult to identify foods that are GMO-free (64% compared to 56% overall) or to determine where the product has been produced (38% compared to 32% overall).

2. Focus on Food Labeling

It is common practice for consumers to peruse the ingredients listed on food packages as well as the Nutrition Facts table (NFt) when they are purchasing or consuming foods. Just under two-thirds (63%) of consumers say they check the ingredients listed on food packages most of the time (either frequently (42%)

or always (21%)). About the same numbers (65%) look at the NFt regularly (42% say they do so frequently and another 23% say they always do).

Consistently, just over one-in-ten Canadians (11%) rarely or never do either.

FREQUENCY WITH WHICH CONSUMERS LOOK AT INGREDIENTS LISTED ON FOOD PACKAGES

Always to Never	TOTAL	GENDER		AGE				EDUCATION			LANGUAGE			PARENTAL		REGION					
		Male	Female	19-34	35-44	45-54	55+	HS or less	College	University	English	French	Other	Yes	No	ATL	ON	PQ	MB/SK	AB	BC/North
n=	2018	981	1037	542	335	392	749	861	585	504	1513	450	93	571	1447	143	769	488	144	221	252
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
NET - ALWAYS/FREQUENTLY	63	57	68	60	54	68	67	58	65	71	66	52	61	67	61	62	67	55	68	63	66
Always	21	17	24	20	17	22	22	18	21	26	22	15	20	21	21	20	23	16	23	22	22
Frequently	42	40	44	40	37	46	44	40	43	45	44	37	40	46	41	43	44	39	45	41	43
Sometimes	28	31	25	31	34	23	25	31	26	22	26	32	34	25	29	27	25	30	27	30	29
Rarely	8	10	6	8	10	6	7	9	8	5	7	13	3	7	8	8	6	12	5	6	5
Never	2	2	1	1	2	2	1	2	2	1	1	3	3	1	2	2	2	3		1	1
NET - RARELY/NEVER	9	12	7	9	12	9	8	11	9	7	8	16	6	8	10	11	8	15	5	7	6

Q12a. The ingredients listed on food packages (When it comes to purchasing or consuming foods, how often, if ever, do you look at each of the following?)

FREQUENCY WITH WHICH CONSUMERS LOOK AT THE NUTRITION FACTS TABLE

Always to Never	TOTAL	GENDER		AGE				EDUCATION			LANGUAGE			PARENTAL		REGION					
		Male	Female	19-34	35-44	45-54	55+	HS or less	College	University	English	French	Other	Yes	No	ATL	ON	PQ	MB/SK	AB	BC/North
n=	2018	981	1037	542	335	392	749	861	585	504	1513	450	93	571	1447	143	769	488	144	221	252
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
NET - ALWAYS/FREQUENTLY	65	60	70	63	60	65	68	63	65	70	67	59	58	67	64	66	69	59	65	65	63
Always	23	20	25	26	17	22	24	22	22	25	24	20	20	24	23	25	24	21	25	22	23
Frequently	42	39	45	38	43	43	43	40	43	44	43	39	37	43	42	42	45	38	40	43	41
Sometimes	24	28	20	26	28	25	20	24	24	23	22	27	33	25	24	19	21	27	27	27	27
Rarely	8	9	8	8	9	7	9	9	9	5	8	10	7	7	9	9	8	9	7	7	9
Never	3	4	2	3	3	3	3	3	3	2	2	4	3	2	3	6	3	4	1	1	1
NET - RARELY/NEVER	11	12	10	10	12	10	12	13	11	7	10	14	10	9	12	15	11	14	8	8	10

Q12b. The Nutrition Facts Table which is shown on all packaged food products and gives you information on serving size, calories and the % Daily Value as well as different nutrients (sodium, sugars, etc.) contained in the product (When it comes to purchasing or consuming foods, how often, if ever, do you look at each of the following?)

Few variations across demographic groups or regions are evident on these questions, although those between the ages of 45 and 54 (68%) and those 55 or older (67%) are slightly more likely to say they look at the ingredients listed on food packages often (frequently or always). By contrast, while most residents of Quebec regularly check both the ingredients and the NFt, the percentage of those who say they rarely or never do is somewhat higher than average (14%-15% versus an average of 11%).

Just over one-third (36%) of consumers responded in the affirmative when asked whether there is any additional information they would like to see included on food labels.

CONSUMER INTEREST IN HAVING ADDITIONAL INFORMATION SHOWN ON FOOD LABELS

Yes or No	TOTAL	GENDER		AGE				EDUCATION			LANGUAGE			PARENTAL		REGION					
		Male	Fe-male	19-34	35-44	45-54	55+	HS or less	Coll-ege	Uni-versity	English	French	Other	Yes	No	ATL	ON	PQ	MB/ SK	AB	BC/ North
n=	2018	981	1037	542	335	392	749	861	585	504	1513	450	93	571	1447	143	769	488	144	221	252
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Yes	36	36	36	39	41	36	32	32	36	44	37	31	39	38	35	32	37	32	36	32	48
No	64	64	64	61	59	64	68	68	64	56	63	69	61	62	65	68	63	68	64	68	52

Q13. Thinking about the way food is currently labeled, is there any additional information you would like to see included on food labels?

- Those under age 45, in particular, were more inclined to say they would like some additional information included (39% among those aged 19 to 34 years; 41% among those aged 35 to 44 years).
- By region, residents of British Columbia (48%) were significantly more likely to request more information on food labels.

A wide range of additional information is desired, but place of origin (21%), identifying products as GMO (18%) and more details in general about the ingredients (14%) were most commonly cited.

WHAT ADDITIONAL INFORMATION?

List of Additional Information	TOTAL	GENDER		AGE				EDUCATION			LANGUAGE			PARENTAL		REGION					
		Male	Fe-male	19-34	35-44	45-54	55+	HS or less	Coll-ege	Uni-versity	English	French	Other	Yes	No	ATL	ON	PQ	MB/ SK	AB	BC/ North
n=	730	354	376	212	136	139	242	273	209	224	563	138	36	218	511	45	283	157	52	72	121
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Country of origin/Place of origin/Where it was manufactured (e.g., Canadian made, local)	21	19	23	14	17	24	27	22	22	20	22	18	13	21	21	30	21	19	29	18	18
GMO labeling/Genetically modified	18	19	17	17	19	20	17	17	19	20	18	15	16	14	20	18	16	15	15	25	24
More details/Rating/Percentages/More info (general)	14	11	17	11	14	13	18	13	16	14	16	6	7	15	14	8	15	9	16	18	18
Ingredients/Ingredients that are recognizable to layman/List of ingredients (general)	9	8	10	11	9	6	9	10	9	8	10	5	4	9	9	3	10	5	6	10	15
Sugar content/Processed sugar/No sugar	9	8	9	6	9	10	10	6	12	10	7	18	2	7	9	5	6	15	7	11	6
Benefits/Nutritional value	6	7	5	8	9	4	4	7	5	6	7	3	12	7	6	8	7	3	11	3	5
Healthy (or not)/Health risks/Side effects/Health and safety signs	6	8	4	7	4	11	4	7	6	5	6	6	9	4	7	8	7	6	7	2	5
Chemicals content (e.g., artificial dyes, pesticides, preservatives)	6	6	6	6	8	1	6	5	5	6	6	4	7	6	5	5	7	5	5	5	4

WHAT ADDITIONAL INFORMATION? (cont'd)

List of Additional Information	TOTAL	GENDER		AGE				EDUCATION			LANGUAGE			PARENTAL		REGION					
		Male	Fe-male	19-34	35-44	45-54	55+	HS or less	Coll-ege	Uni-versity	English	French	Other	Yes	No	ATL	ON	PQ	MB/ SK	AB	BC/ North
n=	730	354	376	212	136	139	242	273	209	224	563	138	36	218	511	45	283	157	52	72	121
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Serving size/Recommended serving/How many servings per package/Standardized serving sizes	5	4	6	8	4	2	5	3	6	6	6	1	5	7	4	1	8	1	6	5	5
Expiry date/Shelf life/Best before date/Manufacturing date	4	5	3	4	4	5	4	3	4	5	4	6	4	3	5	-	6	5	7	-	2
How it was processed and handled/Methods used in production/Degree to which it was processed	4	3	5	8	1	5	1	4	5	3	5	2	-	4	4	2	6	1	3	7	4
Natural (or not)	3	3	3	5	4	3	2	5	2	2	4	-	2	2	4	5	3	<1	8	6	3
Fat/Trans fat/Good fat vs. bad fat /Quality of fat	3	3	2	2	2	2	3	2	3	3	1	7	-	2	3	2	2	6	-	1	<1
Other	5	4	6	8	4	7	2	5	6	4	4	9	9	9	3		6	8	2	5	2
None/Nothing	3	4	2	3	4	2	2	2	2	4	2	2	7	3	2	4	4	2	-	1	3
Not Stated	2	2	2	2	2	<1	2	2	<1	3	2	2	8	2	2	4	1	2	2	4	<1

Q14. What additional information would you be interested in seeing on food labels?
Results 3% or higher are shown

- Additional information on where foods were manufactured/produced was identified by a slightly higher proportion of those aged 55 and older (27%).
- Francophones (18%) and, specifically residents of Quebec (15%) were much more likely to seek additional information related to the amount of sugar in food products, compared to the average (9%).

C. Views on Food Production, Science and Technology

1. Consumers' Understanding of How Food is Grown and Produced

Almost half of consumers (48%) rate their understanding of how food is grown and produced as good (39% say good; 9% say very good). About the same numbers (45%) rate their understanding as fair.

UNDERSTANDING OF HOW FOODS ARE GROWN AND PRODUCED

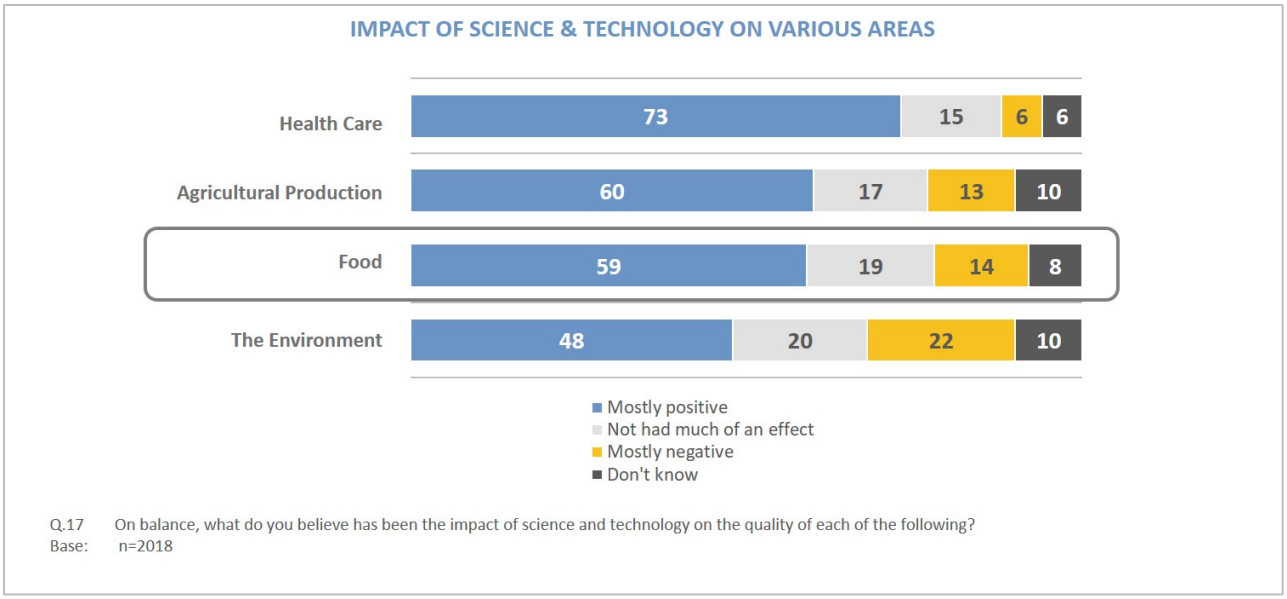
Very Good to Very Poor	TOTAL	GENDER		AGE				EDUCATION			LANGUAGE			PARENTAL		REGION					
		Male	Fe-male	19-34	35-44	45-54	55+	HS or less	Coll-ege	Uni-versity	English	French	Other	Yes	No	ATL	ON	PQ	MB/ SK	AB	BC/ North
n=	2018	981	1037	542	335	392	749	861	585	504	1513	450	93	571	1447	143	769	488	144	221	252
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
NET - GOOD	48	49	46	41	47	50	51	45	49	52	50	41	41	49	47	42	51	40	49	57	46
Very Good	9	9	9	9	8	10	8	8	10	9	10	7	4	12	8	9	9	6	12	14	6
Good	39	41	37	32	39	41	43	37	39	43	40	34	37	37	39	33	42	34	37	43	39
Fair	45	43	47	48	44	42	45	47	45	41	43	52	49	42	46	50	41	51	42	39	49
Poor	7	6	7	10	7	6	4	7	6	6	7	6	7	9	6	8	7	7	10	3	4
Very Poor	1	1	<1	1	2	1	<1	1	<1	1	<1	1	3	1	1	1	1	1	-	1	<1
NET - POOR	7	7	7	11	9	7	4	8	7	7	7	7	10	9	6	8	8	8	10	4	5

Q16. How would you rate your own basic understanding of how food is grown and produced?

- Albertans are most likely to rate their understanding of how food is produced as good or very good (57%), about 9-points more than the national average. Otherwise, there are no significant variations across key demographics.

2. Impact of Science and Technology

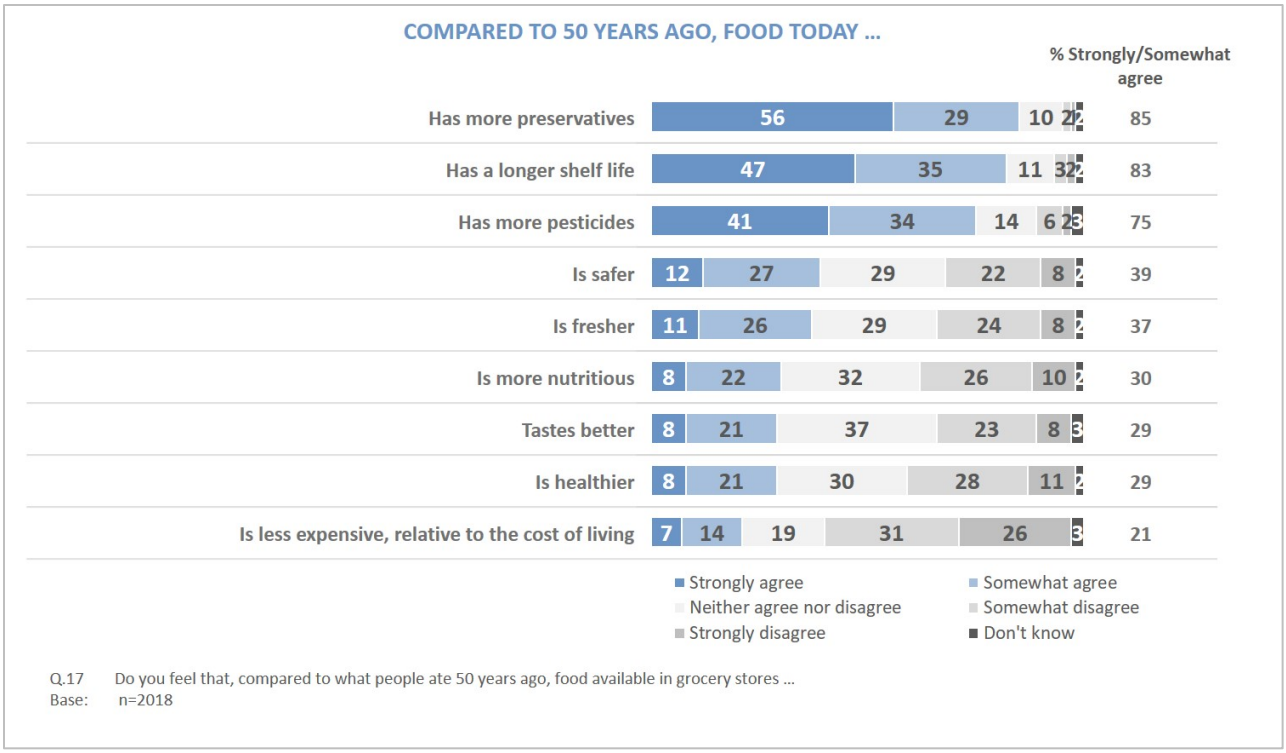
There is a much stronger consensus among Canadians that science and technology has had a mostly positive impact on health care (73%), relative to agricultural production (60%) and food (59%), although the balance is still definitively positive in the latter two areas. In terms of the environment, views are somewhat more mixed, with just under half (48%) believing the impact of science and technology to be mostly positive, while the remainder are split between those saying the impact has been mostly negative (22%), that it hasn't had much of an effect (20%) or that they simply don't know (10%).



There are few notable variations across these questions, although those aged 55 and older are more likely, compared to those in other age groups, to say that the impact of science and technology has been mostly positive on both agricultural production (67%) and food (65%). They are also more likely to believe this to be the case for the environment as well (51%), although not quite to the same extent.

3. Changes in the Quality of Food over the Last 50 Years

While consumers express faith in Canada's food safety system, they nevertheless express some concerns about the quality of the food being produced and sold in Canada today, relative to what they believe was the case five decades previous. The vast majority of Canadians believe that the food we consume today contains more preservatives (85%), has a longer shelf life (82%) and has more pesticides (75%) compared to what people ate 50 years ago. Views are somewhat mixed as to whether food is safer (39% agree; 30% disagree). And, less than one-third say that food is more nutritious (30%), healthier (29%), tastes better (29%) or is less expensive relative to the cost of living (21%). On this latter aspect, more than half (57%) disagree (26% strongly disagree) that food is less expensive today, as compared to 50 years ago.



Q.17 Do you feel that, compared to what people ate 50 years ago, food available in grocery stores ...
Base: n=2018

Variations across sub-groups of the population are minimal, with three notable exceptions:

- Those aged 55 years or older are more likely to agree that food has a longer shelf life (86%), but is fresher (48%), in addition to being safer (45%) and healthier (33%);
- Residents of Ontario are more likely to agree that food is safer (44%), tastes better (34%), is healthier (32%) and less expensive (25%); and
- Residents of Atlantic Canada are more likely to agree that food we consume today has more pesticides (83%).

4. Concerns about Food Production and Manufacturing

Given that price is far and away the most frequently cited consideration when shopping for food, it is not surprising that consumers express the highest levels of concern about the cost of food, among an array of areas tested in terms of Canadians' concerns associated with food production and manufacturing. Fully 47% of consumers said they were extremely concerned ('7' on a 7-point scale where 7 is extremely concerned and 1 is not at all concerned) about this issue. Overall, almost nine-in-ten Canadians express some degree of concern over food prices (88%).

In addition to price, two other issues are of intense concern to Canadians when it comes to food production and manufacturing:

- 83% are concerned about the use of pesticides and herbicides (43% are extremely concerned – 7 on the 7-point scale); and

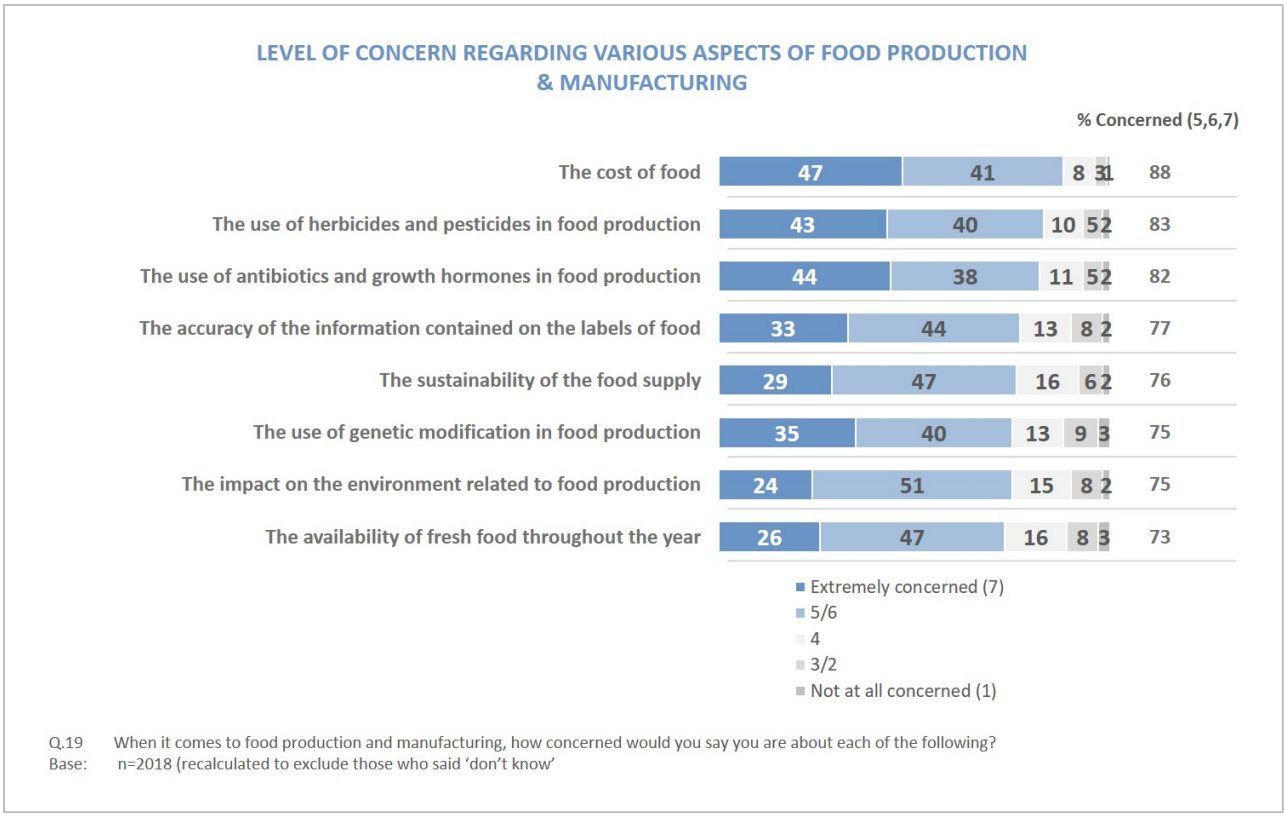
- 82% are concerned about the use of antibiotics and growth hormones (44% are extremely concerned).

Keeping in mind that these issues were relatively infrequently cited when respondents were prompted to identify the three key considerations that consumers take into account at the time they are shopping for food, the results do suggest that these issues are nevertheless fairly top-of-mind for consumers.

A second tier of concerns – identified as concerns by 73 to 77% of consumers, although about one-third or fewer say they are extremely concerned about these issues – includes the following:

- Accuracy of the labels on food (77%);
- Sustainability of the food supply (76%);
- Genetic modification and impact of food production on the environment (75% each); and
- Availability of fresh food (73%).

Findings from this battery of questions, and responses to the earlier question on key considerations, indicates that, when raised, GM foods are a concern, but that consumers appear to be more worried about other aspects of food production, particularly the use of herbicides, pesticides, antibiotics and growth hormones. At the same time, these results explain why consumers are highly susceptible to messaging from anti-GMO advocates who can effectively tap into surface level fears that the food chain is being manipulated in ways that could be harmful to human health, and the environment, as we heard in focus groups.



Given the very high levels of concern linked to all of these aspects of food production, it is not surprising that variations across demographic groups are quite minimal. A few, however, do stand out:

- Canadians aged 45 and older express higher levels of concern about the use of herbicides and pesticides in food production (88% overall, and 51% giving a rating of '7' on a 7-point scale).

Across the regions, residents of Quebec express greater concern in three specific areas:

- While residents of Quebec express similar levels of overall concern about the cost of food (88%), the intensity of their concern is higher than average. Over half (56%) say they are extremely concerned ('7' on a 7-point scale of concern);
- Quebecers (86%) are also among those expressing somewhat higher levels of concern about the use of antibiotics and growth hormones in food production, along with Atlantic Canadians (88%, with 51% expressing saying they are extremely concerned); and
- 81% of Quebeckers are concerned about GM foods (with 40% extremely concerned).

D. Attitudes towards GM Foods

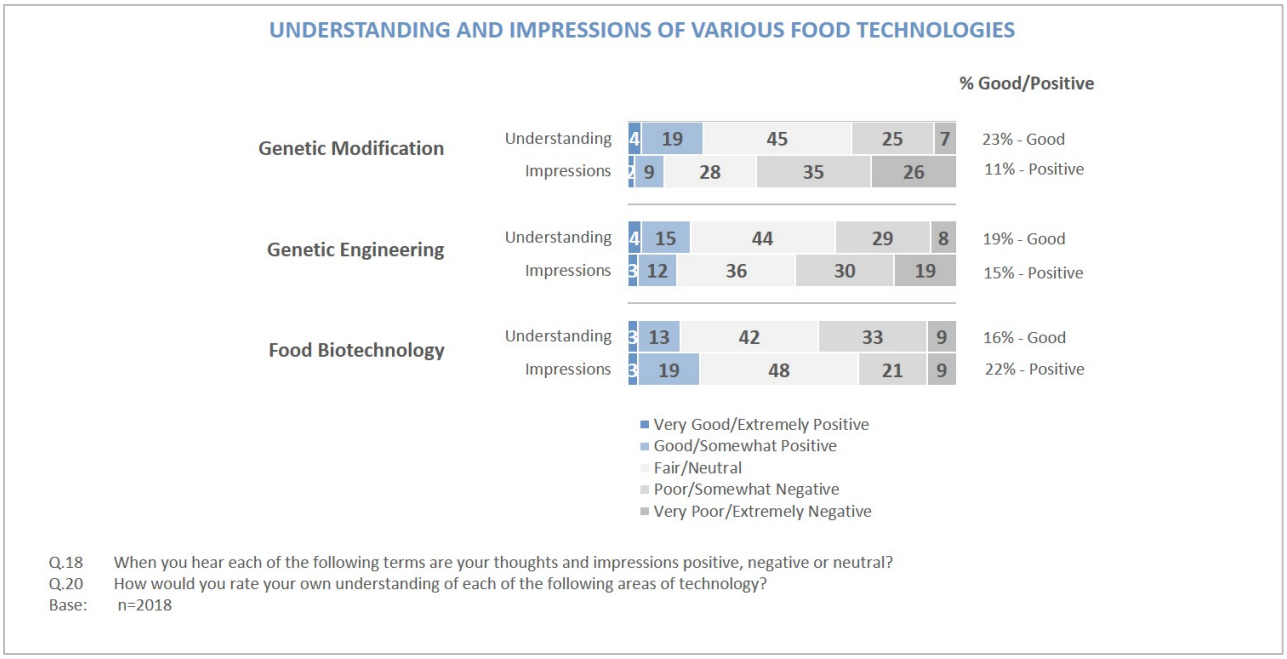
1. Understanding and Impressions of Genetic Modification and Related Technologies

Canadians' acknowledge that their understanding of various food technologies – genetic modification, genetic engineering and food biotechnology – is minimal. The vast majority rate their understanding of these technologies as only fair to poor. Interestingly, however, although just under one-quarter (23%) of

consumers indicate their understanding of genetic modification as 'good' or 'very good,' about half as many (11%) say they have positive impressions of this technology. The reverse is true of food biotechnology, where just 16% say they have a good understanding of the technology (fewer than is the case with GMOs), but slightly greater numbers (22%) nevertheless have positive associations with this term.

The results line up with findings from the focus group research in which it was evident that the terminology employed in discussions of food and agricultural science make a difference with respect to impressions. Again, it is likely that even though consumers' knowledge of the science of genetic modification is limited, their impressions are being influenced (mostly negatively – 61% have a negative impression of GM foods) by the anti-GMO movement and/or media reports on this topic.

As the chart below illustrates impressions of GM foods and genetic engineering are mostly negative (61% and 49%, respectively), while impressions of food biotechnology are somewhat more muted (48% neutral; 30% negative).



Q.18 When you hear each of the following terms are your thoughts and impressions positive, negative or neutral?
Q.20 How would you rate your own understanding of each of the following areas of technology?
Base: n=2018

Understanding and impressions of these various food technologies are fairly consistent across all demographic groups, although:

- Those between the ages of 19 and 34 are somewhat most positive in their impressions of genetic engineering (22% versus average of 15%) and of genetic modification (16% versus average of 12%). Nevertheless, for this cohort, the balance of opinion in terms of impressions on the latter technology is negative (55% among this age group hold negative impressions of genetic modification);
- Conversely, those aged 55 and older tend to be somewhat more negative (54%) compared to the average (49%) in terms of their impressions of genetic engineering.

2. Perceptions of GM Foods

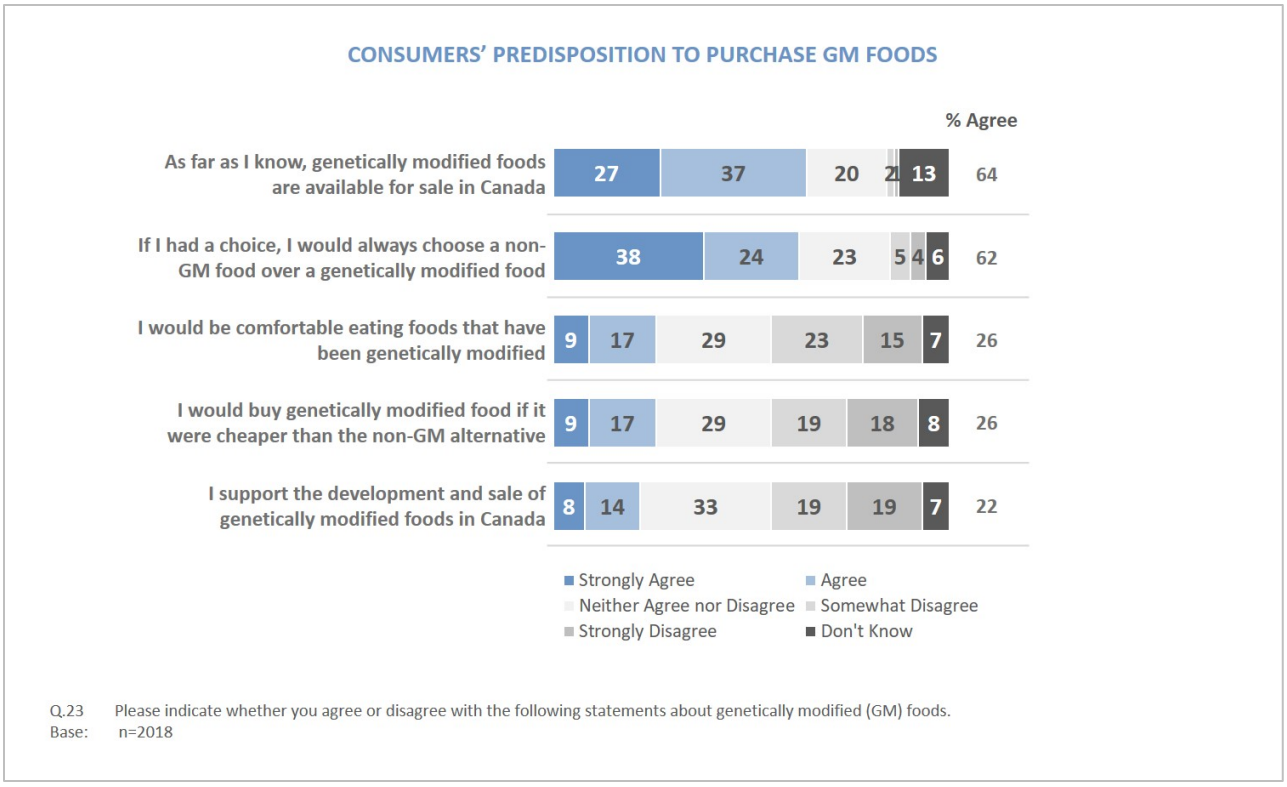
Respondents were taken through a series of agree/disagree statements to assess their views on various aspects of genetically modified foods. These statements can be grouped into four broad categories relating to consumers' perceptions of:

- The quality of GM foods, relative to non-GM foods;
- The benefits and drawbacks associated with GM foods;
- The safety associated with GM foods;
- The testing and evaluation process for GM foods; and
- Their predisposition to purchase and Consume GM foods;

Predisposition to Purchase and Consume GM Foods

Consumers' views on GM foods lag far behind what is actually occurring in the marketplace and survey results show considerable resistance to making GM foods available. While almost two-thirds (64%) of Canadians believe that GM foods are available for sale in Canada, very few (22%) support the development and sale of GM foods, as shown in the chart below.

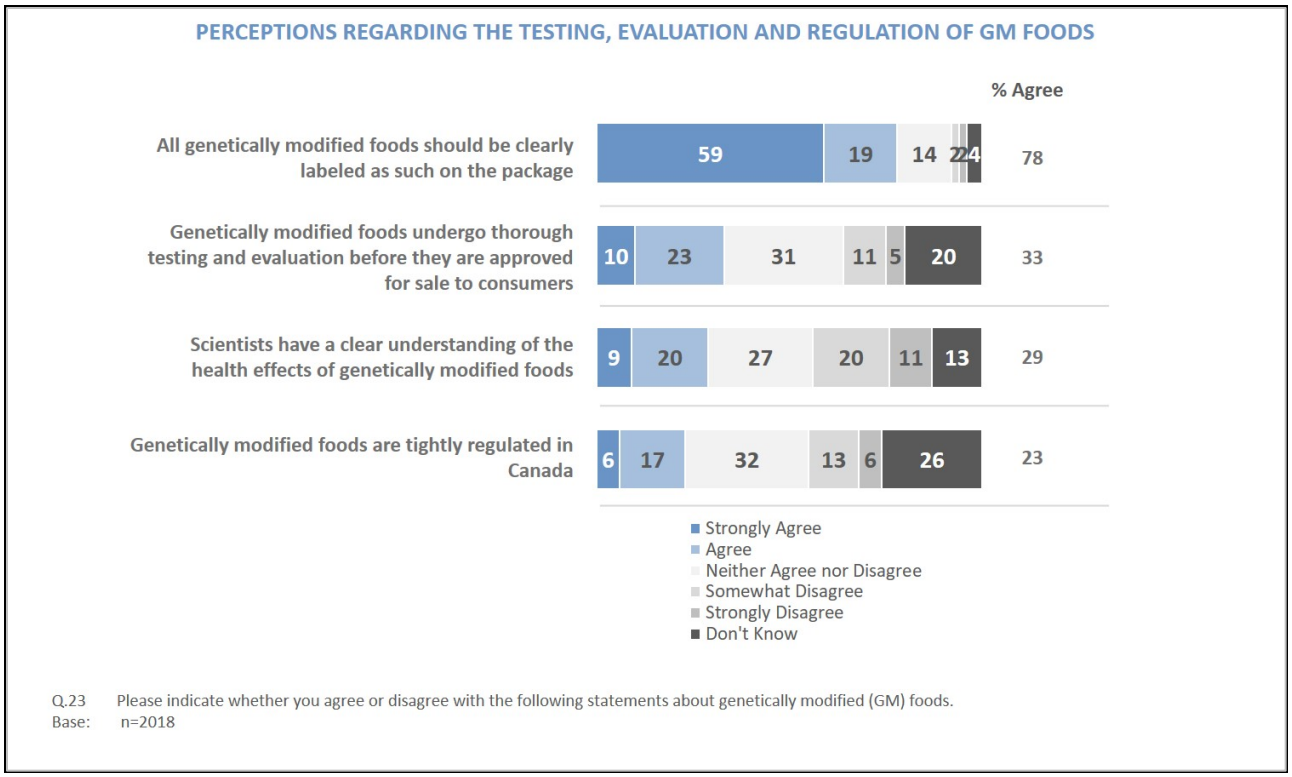
Consumers are also fairly firm in saying they would always select the non-GMO alternative, if they had a choice (62%) although, as earlier results indicated, many consumers believe it is difficult to know whether a food is GMO-free or not and consumers admit they have little understanding of the science of genetic modification. Further, only about one-quarter of Canadians would feel comfortable eating GM foods or would buy a GM food if it were cheaper than the GMO-free alternative (26% each).



Testing, Evaluation and Regulation of GM Foods

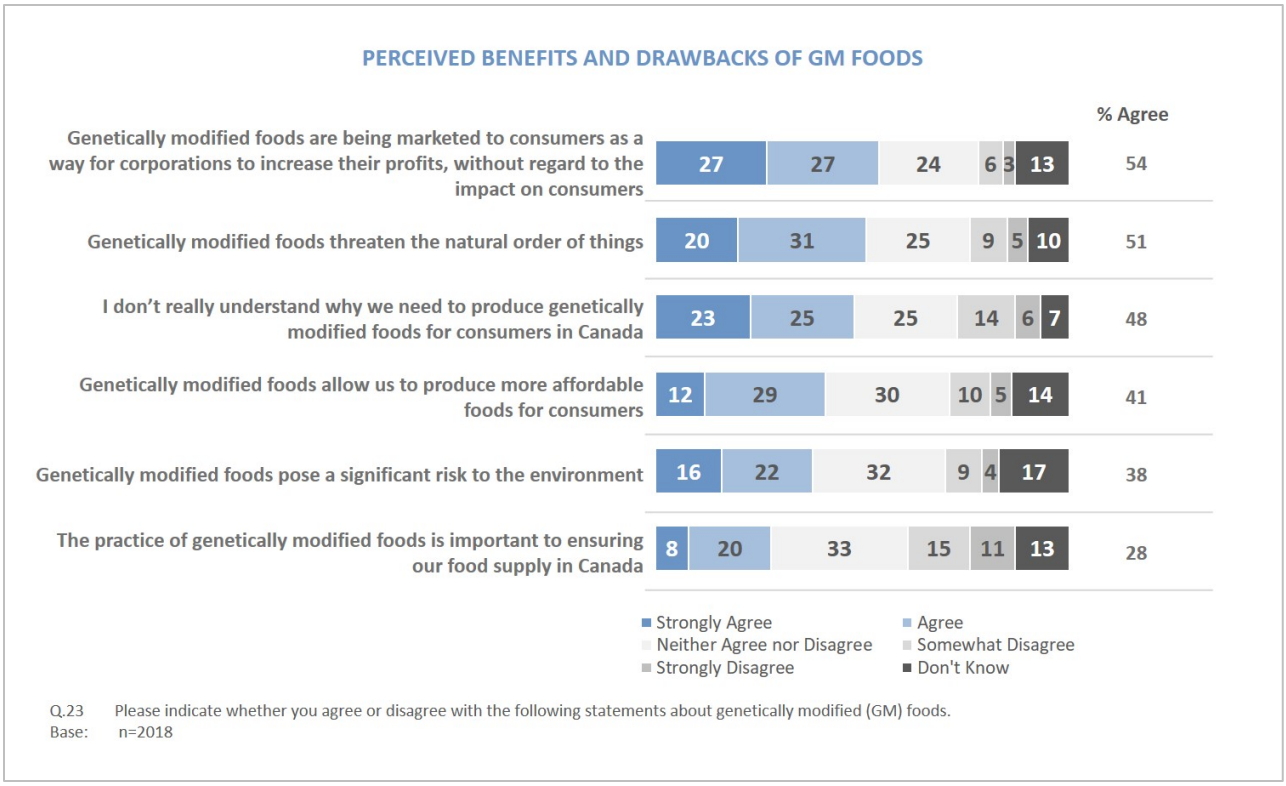
There is a clear gap between what consumers expect in terms of the testing, evaluation and regulation of GM foods in Canada, and what they believe to be the case. Over three-quarters of Canadians (78%) agree that GM foods should be clearly labeled as such. At the same time, results show a high degree of scepticism, combined with a simple lack of awareness, as to whether GM foods are effectively tested and regulated in Canada. About one-third (33%) of consumers believe GM foods undergo thorough testing and evaluation before they are approved for sale, versus 16% who disagree this is the case and another 20% who say they just 'don't know.' Less than one-quarter (22%) say that GM foods are tightly regulated in Canada although here again a significant percentage (26%) 'don't know' what the reality is.

Relatively few consumers (29%) believe that scientists have a clear understanding of the health effects suggesting that this perception, combined with what consumers believe to be a lack of oversight and rigorous testing, has clearly contributed to Canadians' current concerns about GM foods.



Benefits and Drawbacks of Producing GM Foods

The main benefit of GM foods is thought to favour the corporations that produce them and this argument was made by a number of participants in the focus groups as well. The majority of consumers (54%) agree that GM foods are being marketed to consumers primarily as a means of increasing corporate profits. While significant proportions of the population believe that GM foods threaten the natural order of things (51%) and question the need to produce GM foods in Canada (48%), some do see the merit in opportunities to produce more affordable foods for consumers (41%). However, about the same number also believe that GM foods pose a significant risk to the environment. Finally, the argument that GM foods will help to ensure the food supply in Canada holds little sway with consumers (just 28% agree).



Quality and Safety of GM Foods

Two-in-five consumers (43%) believe that serious accidents involving GM foods are inevitable (43%). And, significant numbers of Canadians simply question the general quality and safety of GM foods:

- Just over one-quarter (27%) agree they are safe to eat;
- About the same (26%) concur that GM foods are as nutritious as other non-GM foods; and
- There is clear confusion over whether one could consider GM foods 'real food' (32% agree; 31% neither agree nor disagree; 29% disagree with this position).

3. Beliefs about GM Foods

To further assess knowledge and views of GM foods, respondents were given a series of statements about GM foods and asked, based on their understanding or impressions, to indicate whether the statement was true or false. The option to offer 'don't know' as a response was not permitted for this particular question. This was done in order to obtain a more realistic measure of Canadians' views. It was felt that if respondents were allowed to default to 'don't know' as a legitimate response, that many might do so given our understanding from the focus groups about the extent of misinformation, general confusion and lack of knowledge about GM foods. For the most part, it is clear that Canadians' impressions of GM foods are clearly that – impressions not necessarily based in a solid understanding of the facts.

Consumers appear to be fairly clear, and knowledgeable, about certain of the nine true/false statements that were tested, although the degree to which they are reasonably firm in their opinions varies widely. For example, a strong majority of consumers correctly responded to the following statements:

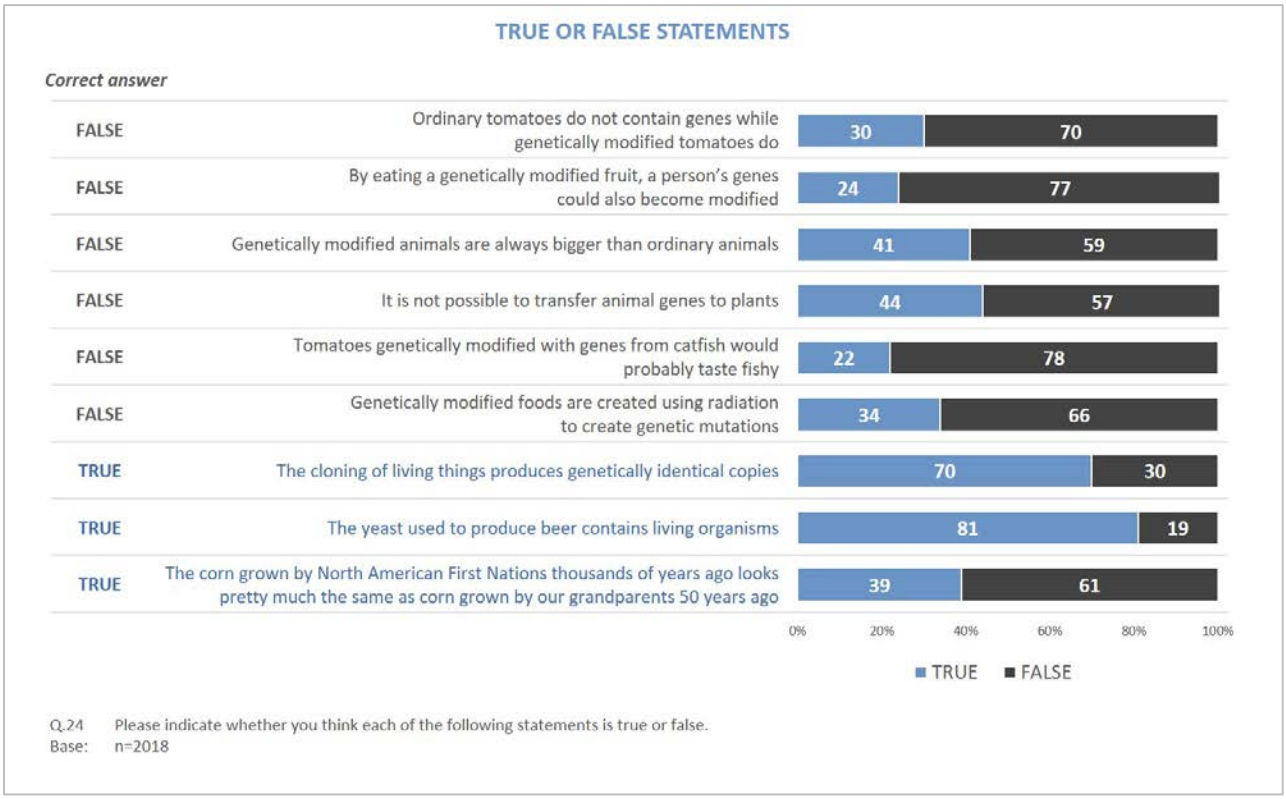
- 81% (true) that yeast used to produce beer contains living organisms;
- 78% (false) that tomatoes which have been genetically modified with genes from catfish would probably taste fishy;
- 76% (false) that by eating a genetically modified fruit, a person's genes could become modified;
- 70% (true) that the cloning of living things produces genetically identical copies;
- 70% (false) that ordinary tomatoes do not contain genes, while genetically modified tomatoes do; and
- 66% (false) that genetically modified foods are created using radiation to create genetic mutations.

The numbers drop off slightly for the following three statements (for which about 40% or more respondents incorrectly responded):

- 59% (false) that genetically modified animals are always bigger than ordinary animals – 41% felt this was true;
- 57% (false) that it is not possible to transfer genes to plants – 43% felt this was true; and
- 39% (true) that corn grown by North American Indians thousands of years ago looks pretty much the same as corn grown by our grandparents 50 years ago – 61% felt this was false.

It is clear from the responses to these statements, also shown in the chart below, that there are two particular areas of confusion about GM foods:

- The belief that genetic modifications create significantly larger (supersized or Franken-foods as was brought up in focus groups) animals, fruits and vegetables; and
- The concern that the process of genetic modification involves more than gene splicing. In line with what focus group participants described, a significant percentage of the population believes that genetic modification also involves radiation and/or the injection of antibiotics, steroids and hormones into food and food products.



E. Reaction to Information and Facts about GM Foods

Respondents were read two specific agree/disagree statements to measure their openness to GM foods prior to being given any information on the subject:

- Genetically modified foods are safe to eat (26% agree); and,
- I would be comfortable eating foods that have been genetically modified (26% agree).

After being given various types of facts and information about GM foods, respondents were again asked these questions. In both cases it is clear that the information given on GM foods had a positive impact as agreement on both statements increased significantly. In fact, 35% of respondents gave a higher agreement score the second time they were asked to rate their agreement with the two statements gauging their openness to consuming GM foods (i.e., after they had been given some factual information on GM foods).

PRE AND POST VIEWS ON GM FOODS

Agree/Disagree Statements Asked at the Beginning of the Survey	1st Ask	2nd Ask (After information on GMO Foods)
Genetically modified foods are safe to eat	26% Agree	43% Agree
I would be comfortable eating foods that have been genetically modified	26% Agree	41% Agree

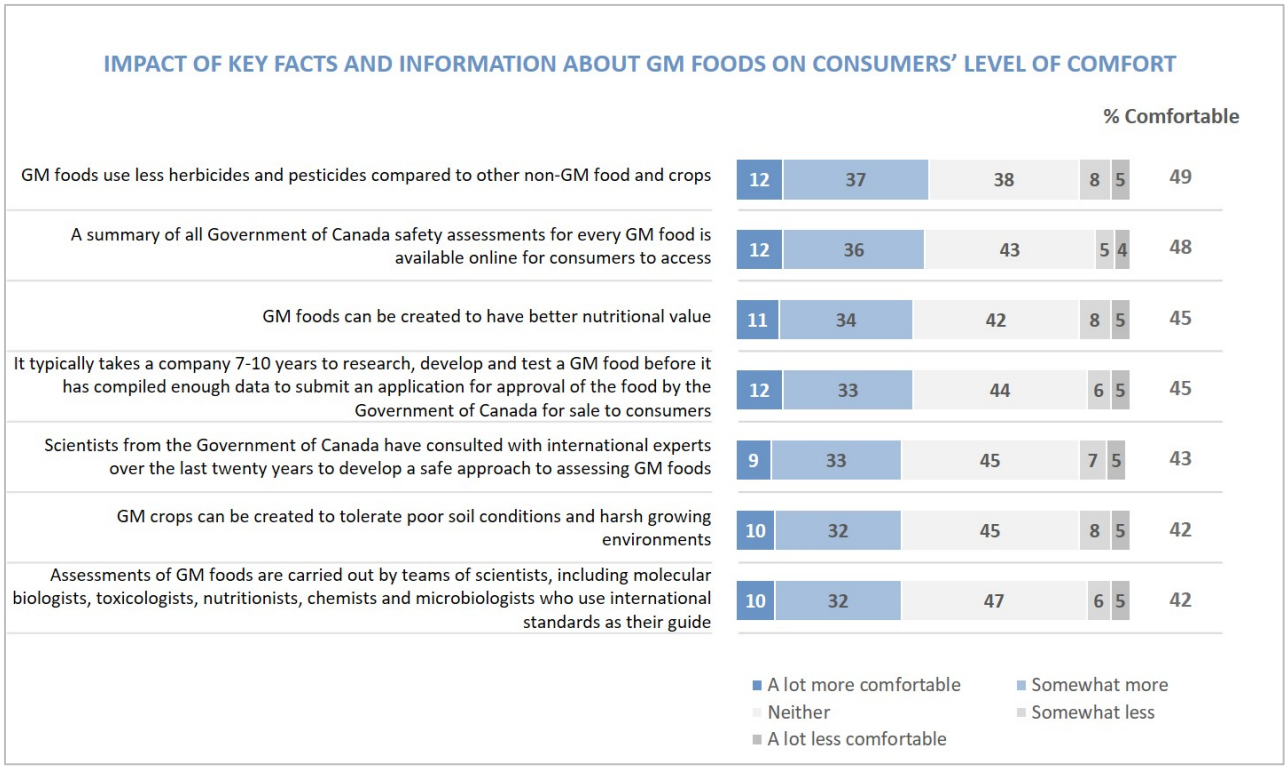
1. Drivers of Change in Openness to Consuming GM Foods

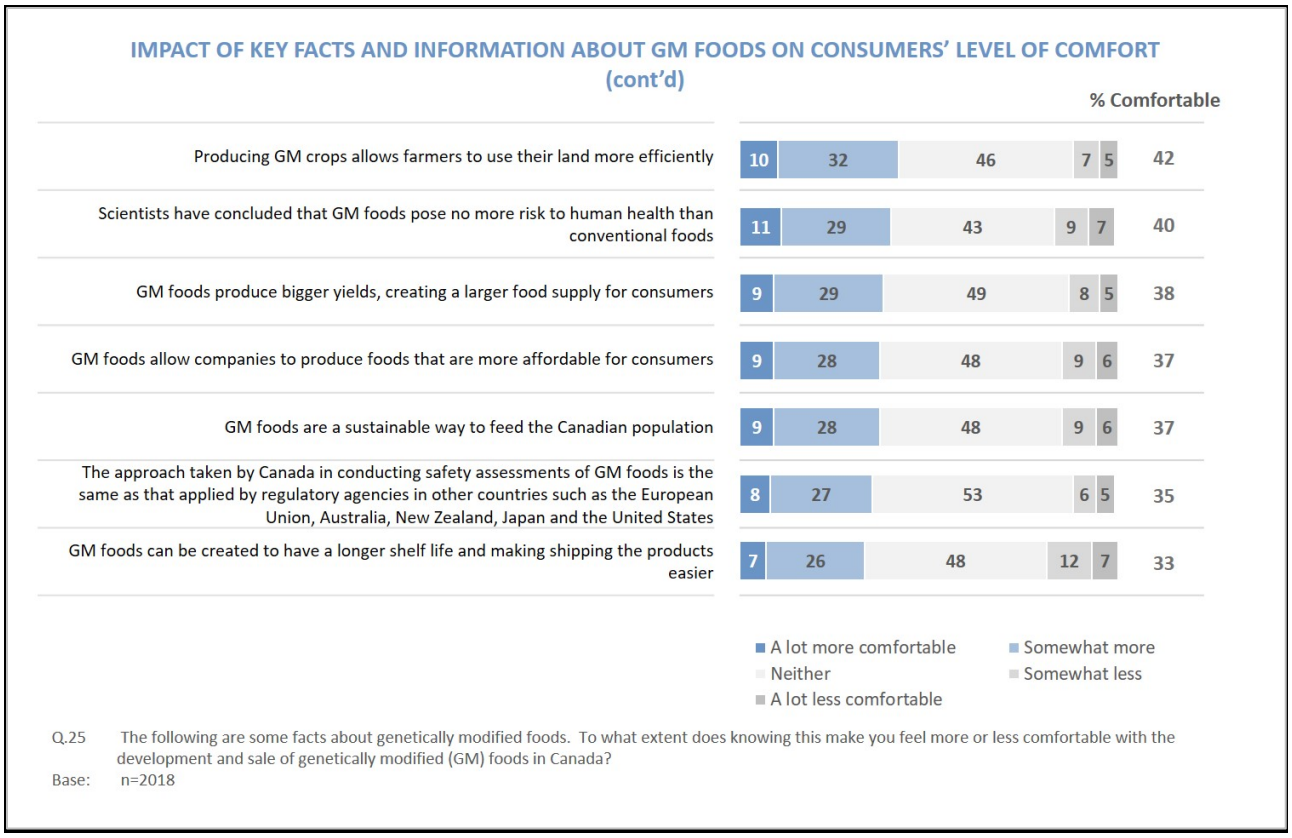
The information provided to respondents on GM foods was delivered via a battery of 14 items which asked respondents to indicate the extent to which the statements increase or decrease their comfort levels with GM foods:

- The following are some **facts** about genetically modified foods. To what extent does knowing this make you feel more or less comfortable with the development and sale of genetically modified (GM) foods in Canada?

From the results shown in the chart below, it is clear that certain types of facts and/or information is more influential than others and has a more ameliorating effect on consumers' views of GM foods. For example, knowing that GM foods use less herbicides and pesticides than other non-GM food and crops, as well as being able to access Government of Canada safety assessments for GM foods online had the effect of making almost half of consumers (49% and 48% respectively) more comfortable. Similarly, having information about the improved nutritional value of GM foods (45%) and knowing that companies typically take 7 to 10 years to research, develop and test GM foods before submitting applications to the Government of Canada (45%) had a positive effect in terms of making consumers more comfortable with the development and sale of GM foods in Canada.

By contrast, information that focused on improved yields, affordability of foods, sustainable production and longer shelf life tended to have a more neutral effect. The same was true for information that underscored the Canadian approach to safety assessments of GM foods is similar to that taken by other countries such as the EU, Australia, New Zealand, Japan and the U.S. We know from the qualitative research that was undertaken that consumers were most worried about comparisons to the U.S., which they felt had more lax regulations around food safety and GM food products in particular.





To understand the extent to which the 14 factual statements about GM foods drive the increased openness to consuming GM foods, a multiple regression model was employed, along with bivariate correlation coefficients (Pearson R). The two openness statements shown above were indexed for this analysis as they are statistically highly correlated with one another (i.e., they are essentially one variable).

Overall, this analysis reveals that the 14 factual items on GM foods explain a significant 56% of the variance in agreement with the openness to consuming statement index (i.e., 2nd reading) meaning that a combination of information relating to the approach to testing (including both the rigorous scientific process and the timeline), transparency about safety assessments, and linking Canadian processes to broader international efforts, can help to shift views in a more positive direction.

Further, nine of the 14 statements are accepted in the multiple regression model when using a stepwise approach. These can be viewed as having the strongest relationship to increased openness among Canadians to both improve views around the safety of GM foods and increase consumers' willingness to consider consuming GM foods. The table below shows the relative strength of the nine drivers based on their Pearson coefficients. Clearly, convincing Canadians that GM foods pose no health risks and promoting their benefits to Canadian consumers are the most effective means to increasing openness to consuming GM foods.

REGRESSION ANALYSIS (BASED ON 14 STATEMENTS RELAYING FACTS AND INFORMATION ABOUT GM FOODS)

Statements	Openness To Consuming GMO Foods (Post Factual Statements on GMO FOODS)	
	Pearson Correlation (Bivariate)	Standardized Beta Coefficient (Multiple Regression)
Scientists have concluded that GM foods pose no more risk to human health than conventional foods.	.655**	.172
GM foods allow companies to produce foods that are more affordable for consumers.	.640**	.117
GM foods are a sustainable way to feed the Canadian population.	.639**	.101
GM foods produce bigger yields, creating a larger food supply for consumers.	.638**	.112
GM foods can be created to have better nutritional value.	.638**	.097
Assessments of GM foods are carried out by teams of scientists, including molecular biologists, toxicologists, nutritionists, chemists and microbiologists who use international standards as their guide	.622**	.091
GM foods use less herbicides and pesticides compared to other non-GM food and crops	.600**	.067
It typically takes a company 7-10 years to research, develop and test a GM food before it has compiled enough data to submit an application for approval of the food by the Government of Canada for sale to consumers.	.593**	.050
GM foods can be created to have a longer shelf life and making shipping the products easier.	.589**	.084

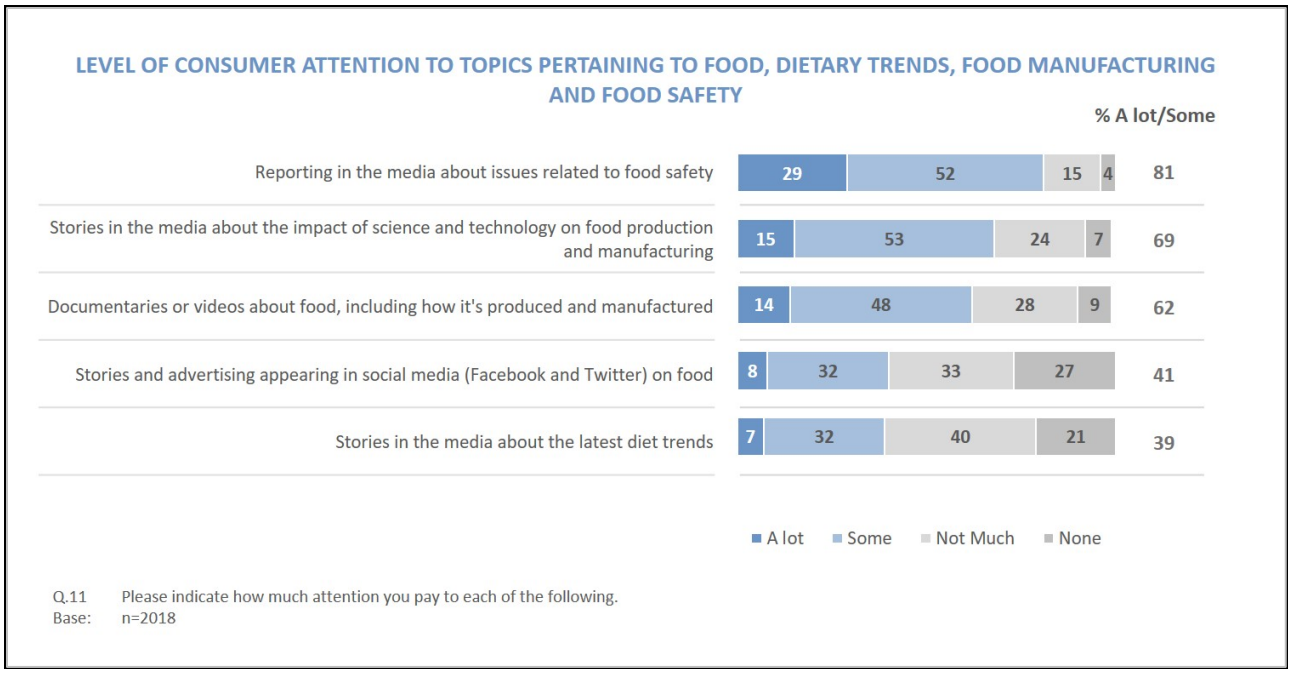
*** Correlation is significant at the 0.01 level (2-tailed).*

F. Media Consumption and Credibility of Spokespersons

1. Interest in Food Reporting

Canadians indicate a high level of interest in media stories related to food safety (81% say they pay some or a lot of attention to reports on this topic). Moderate to high levels of interest are indicated for stories in the media about the impact of science and technology on food production (69%) and on documentaries or videos about food (62%). While interest in these topics may be reasonably high, results from this survey also show that consumers rate their knowledge of how food is grown and produced as modest (47% say their knowledge is good/very good) and their understanding of various food technologies as fair to poor, at best.

Stories in social media on food are of less interest, as are stories in the media about the latest diet trends, although book sales on the latest diet trends may show a different result.



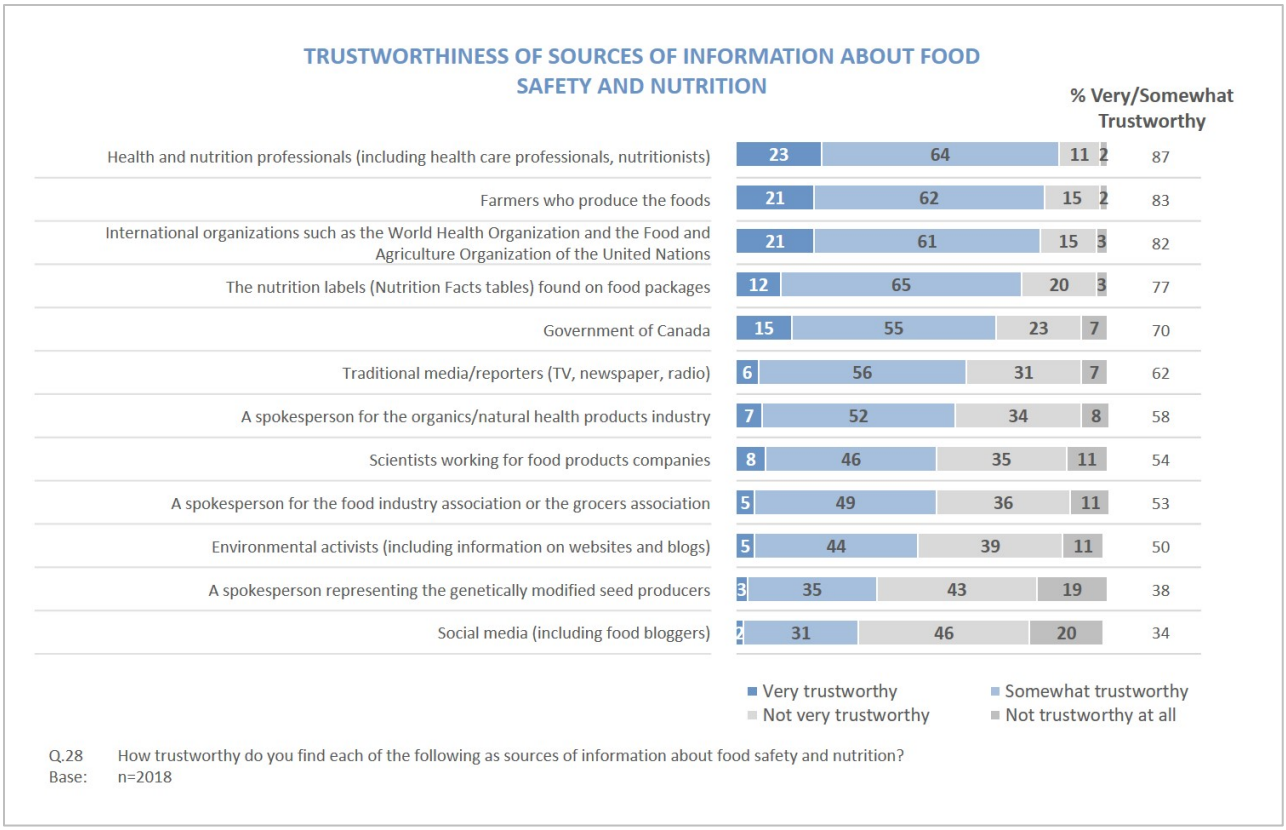
Across the regions, residents of Quebec (72%) are more likely to be paying attention to documentaries or videos about food, including how it is produced and manufactured as well as to stories in the media on the latest diet trends (54%). Stories on the latest dietary trends are also of somewhat greater interest to those aged 19 to 34 (46%) as are stories and advertising in social media on food (54%).

2. Credibility of Spokespersons

Respondents were asked to assess the trustworthiness of various spokespeople and sources of information about food safety and nutrition. The results show a clear demarcation in trust levels. Those who have less direct connection to the food industry (except farmers themselves) or to environmental or activist causes as well as those who have either a more 'expert' or neutral/unbiased point of view are generally more trusted. The most trusted groups or sources include health and nutrition professionals (87%), farmers (83%), organizations such as the WHO and FAO (82%), the NFt (77%) and the Government of Canada (70%).

A second tranche of sources invested with modest levels of trust includes the traditional media (62%), spokespeople for the organics/natural health products industry (58%), scientists working for food products companies (54%), spokespeople for food/grocer associations (53%) and environmental activists (50%).

Much lower on the list are spokespeople representing GM seed producers (38%) and social media (food bloggers) (34%), with the former being seen as having a strong vested interest and the latter likely being viewed as not sufficiently expert. We do know, however, from the focus group research, that many consumers are receiving information about GM foods via social media and, while bloggers do not necessarily appear to be highly trusted, some attention is being paid to their views.

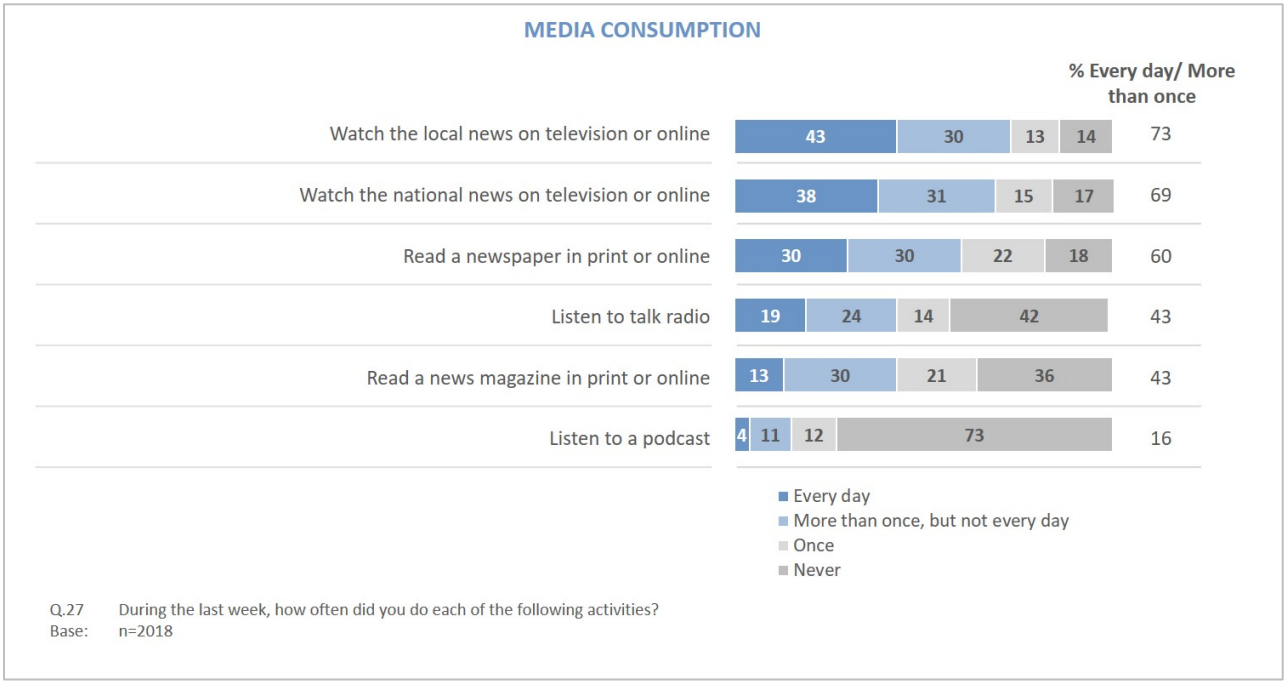


Some demographic and regional variations are evident:

- Trust in social media/food bloggers is slightly higher among those aged 19 to 34 (41%) and Atlantic Canadians (45%);
- Younger Canadians (19-34) are also more likely to be somewhat more trusting of environmental activists (57%);
- Trust in the Government of Canada is higher among those with a university education (75%) and Atlantic Canadians (78%);
- Atlantic Canadians also exhibit somewhat higher levels of trust in spokespeople for the GM seed producers (46%); and
- Residents of Manitoba and Saskatchewan (85%) are more likely to trust the labels shown on the NFt.

3. Media Consumption Patterns

Some information on respondents' media habits was collected in order to provide guidance with respect to reaching out to and connecting with Canadians on the topic of GM foods. Keeping in mind that the traditional media may not be the most effective conduit for relaying information and facts about GM foods, the results indicate that news (local/national) on television, in print or online are frequently consumed by Canadians. Fewer listen to talk radio, read news magazines in print or online or listen to podcasts. The topic of GM foods and the requirement to address the considerable gap in Canadians' understanding of this science and the positive benefits to be derived from GM foods lends itself to stories in print or online, deploying trusted spokespeople as noted above.



Appendix A: Qualitative Research Instruments

1. Recruiting Script

ATTITUDES TOWARDS GMO FOODS - Focus Groups (FINAL Recruiting Script – Mar. 8, 2016)

RECRUITING SPECIFICATIONS SUMMARY

- There will be a total of 10 focus groups.
- Each group is expected to last 2 hours. The groups should be scheduled for 5:30 p.m. and 7:30 p.m. in each location, unless otherwise noted.
- Please recruit 10 participants for minimum 8 to show
- Incentives will be $90 per person
- Participants must be comfortable expressing themselves.
- Participants should be made aware that they could be viewing materials (i.e., print materials). As such, if they have a visual impairment that would may prohibit or limit the ability of the individual to actively participate in the group discussion, they should be excluded. If participant requires glasses, they should be made aware that they should bring them along to the discussion group.

Specifications for the focus groups are as follows:

LOCATION	DATE	TIME	GROUP NUMBER	COMPOSITION
TORONTO	**Wed., Mar. 9th**	5:30 p.m.	1	Parents of children under age 18 years
		7:30 p.m.	2	General population, aged 18+
VANCOUVER	**Thurs., Mar. 10th**	5:30 p.m.	3	Parents of children under age 18 years
		7:30 p.m.	4	General population, aged 18+
SASKATOON**	**Mon., Mar. 14th**	5:30 p.m.	5	Parents of children under age 18 years
		7:30 p.m.	6	General population, aged 18+
HALIFAX**	**Tues., Mar. 15th**	5:30 p.m.	7	Parents of children under age 18 years
		7:30 p.m.	8	General population, aged 18+
QUEBEC CITY* (in French)	**Thurs., Mar. 17th**	5:30 p.m.	9	Parents of children under age 18 years

		7:30 p.m.	10	General population, aged 18+

*Note that at least 3 participants in each of these groups should be drawn from the surrounding areas (i.e., more rural).

2. Recruiting Script

ATTITUDES TOWARDS GMO FOODS - Focus Groups (FINAL Recruiting Script – Mar. 8, 2016)

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- Please recruit 10 participants for minimum 8 to show
- Incentives will be $90 per person
- Participants must be comfortable expressing themselves.
- Participants should be made aware that they could be viewing materials (i.e., print materials). As such, if they have a visual impairment that would may prohibit or limit the ability of the individual to actively participate in the group discussion, they should be excluded. If participant requires glasses, they should be made aware that they should bring them along to the discussion group.

Specifications for the focus groups are as follows:

LOCATION	DATE	TIME	GROUP NUMBER	COMPOSITION
TORONTO	Wed., Mar. 9th	5:30 p.m.	1	Parents of children under age 18 years
		7:30 p.m.	2	General population, aged 18+
VANCOUVER	Thurs., Mar. 10th	5:30 p.m.	3	Parents of children under age 18 years
		7:30 p.m.	4	General population, aged 18+
SASKATOON**	Mon., Mar. 14th	5:30 p.m.	5	Parents of children under age 18 years
		7:30 p.m.	6	General population, aged 18+
HALIFAX**	Tues., Mar. 15th	5:30 p.m.	7	Parents of children under age 18 years
		7:30 p.m.	8	General population, aged 18+
QUEBEC CITY* (in French)	Thurs., Mar. 17th	5:30 p.m.	9	Parents of children under age 18 years

		7:30 p.m.	10	General population, aged 18+

*Note that at least 3 participants in each of these groups should be drawn from the surrounding areas (i.e., more rural).

RECRUITING SCRIPT (FOR ALL GROUPS)

INTRODUCTION:

Hello/Bonjour, my name is []. I'm calling from The Strategic Counsel, on behalf of the Government of Canada. We are a national public opinion research firm organizing a series of discussion groups to explore various issues of importance to the country and Canadians.

Your participation is completely voluntary and all your answers are confidential. They will be used for research purposes only. We are simply interested in hearing your opinions. No attempt will be made to sell you anything or change your point of view. And, any personal information that you share with us will remain confidential. The report that is produced from the series of discussion groups we are holding will not contain comments that are attributed to specific individuals.

EXPLAIN FOCUS GROUPS AS NECESSARY: Eight to ten people like you will be taking part, all of them randomly recruited just like you. The format is a "round table" discussion facilitated by a research professional. For their time, participants will receive an honorarium of $90.

But before we invite you to attend, we need to ask you a few questions to ensure that we get a good mix/variety of people in each of the groups. May I ask you a few questions?

Yes CONTINUE
No THANK AND TERMINATE

PRELIMINARY SCREENING QUESTIONS:

S1 Do you or anyone in your immediate family work (read list)?

- In Market Research or Marketing IF YES, THANK AND END
- In Public Relations or Media (TV, Print or Radio) IF YES, THANK AND END
- In Advertising and Communications IF YES, THANK AND END
- For the Government of Canada IF YES, THANK AND END
- As an employee of a political party IF YES, THANK AND END
- In the agricultural or fisheries sectors IF YES, THANK AND END
- In food production, manufacturing, processing or food safety IF YES, THANK AND END
- As a researcher in the agricultural, fisheries, food production, manufacturing or processing fields IF YES, THANK AND END

If no to all, continue.

S2 How old are you? (Record age and ensure a mix of ages in all groups)

- Under 18 years of age THANK AND END
- 18-24 years of age CONTINUE
- 25-34 years of age CONTINUE
- 35-54 years of age CONTINUE
- 55-64 years of age CONTINUE
- 65+ years of age CONTINUE
- Prefer not to answer (VOLUNTEERED) THANK AND END

ENSURE AT LEAST 1-2 PARTICIPANTS PER GROUP FROM THE 18-24 AGE CATEGORY. NO MORE THAN 2 PEOPLE AGED 55+ IN EACH GROUP (LIMIT THOSE AGED 65+ TO 1 PER GROUP MAXIMUM AND NO PARTICIPANTS OLDER THAN 74 YEARS OF AGE).

S3. Have you ever attended a consumer group discussion, an interview or survey which was arranged in advance and for which you received a sum of money?

Yes	MAX. ⅓ PER GROUP
No	GO TO Q1

S4. How long ago was it?

TERMINATE IF IN THE PAST 6 MONTHS

S5. How many consumer discussion groups have you attended in the past 5 years?

TERMINATE IF MORE THAN 4 DISCUSSION GROUPS

S6. And on what topics were they?

TERMINATE IF ANY ON AGRICULTURE, FARMING, FOOD MANUFACTURING, PROCESSING OR FOOD SAFETY.

ADDITIONAL RECRUITING CRITERIA:

1. Are you a first generation Canadian? That is, were you born in another country and moved to Canada?

- Yes CLASSIFY AS POTENTIAL NEWCOMER CONTINUE
- No CLASSIFY AS GENERAL POPULATION SKIP TO Q.3

2. How long have you lived in Canada?

- Less than 10 years CLASSIFY AS NEWCOMER CONTINUE
- 10 years or more CLASSIFY AS ESTABLISHED CONTINUE

ATTEMPT TO GET AT LEAST 1-2 NEWCOMERS IN EACH GROUP (BOTH FOR GEN POP AND PARENTS' GROUPS).

3. Can you please tell me how would you describe your ethnicity?

- Aboriginal CONTINUE
- African CONTINUE
- Arab CONTINUE
- British/European CONTINUE
- Canadian CONTINUE
- Caribbean CONTINUE
- Chinese CONTINUE
- Other East/Southeast Asian (e.g. Filipino, Korean, Japanese) CONTINUE
- French CONTINUE
- Latin/Central/South American CONTINUE
- South Asian/East Indian (i.e., Pakistani, Punjabi, East Indian, Tamil) CONTINUE
- Other CONTINUE

GET A GOOD MIX FOR EACH GROUP. FOR ALL GROUPS, SKEW SHOULD BE TOWARD NON-BRITISH/EUROPEAN ETHNICITIES. MAXIMUM 2 PER GROUP OF BRITISH/EUROPEAN HERITAGE.

4. Are you….

- Employed full-time CONTINUE
- Employed part-time CONTINUE
- Self-employed CONTINUE
- A college or university student (MAXIMUM 1 PER GROUP)
- Not working outside the home but looking for work (MAXIMUM 1 PER GROUP)
- Not working outside the home and not looking for work (MAXIMUM 1 PER GROUP)

- Retired (MAXIMUM 1 PER GROUP)

5. Which one of the following best describes the field in which you work?

- Health care (includes medical devices and pharmaceuticals) CONTINUE
- Education CONTINUE
- Manufacturing CONTINUE
- Financial services CONTINUE
- Information, Communications and Technology (ICT) CONTINUE
- Transportation CONTINUE
- Resources (i.e., forestry, mining, oil and gas) CONTINUE
- Professional Services CONTINUE
- Digital media CONTINUE
- Other CONTINUE

GET A GOOD MIX ACROSS FIELDS IN ALL GROUPS.

6. What is your marital status?

- Married/common-law CONTINUE
- In a relationship or dating CONTINUE
- Single (never married and currently not in a relationship or dating) CONTINUE
- Divorced/Separated CONTINUE
- Widowed CONTINUE
- Prefer not to answer (VOLUNTEERED) CONTINUE

GET A GOOD MIX IN ALL GROUPS.

7. Do you have any children under the age of 18 who live with you in your household?

- Yes CONTINUE TO Q.7A (CONSIDER FOR PARENTS' GROUPS)

- No SKIP TO Q.7b.

GET A GOOD MIX IN ALL GROUPS.

7a. What are the ages of your children?

- Child 1 …. Age
- Child 2 …. Age
- Child 3 …. Age
- Child 4 …. Age

ADD ADDITIONAL INFORMATION AS NECESSARY AND CATEGORIZE INTO 3 GROUPS: AGES 5 AND UNDER, AGES 6-10, AND AGES 11-17. GET A GOOD MIX IN PARENTS' GROUPS OF PARTICIPANTS WITH CHILDREN ACROSS THE 3 AGE CATEGORIE AND TOTAL NUMBER OF CHILDREN.

7b. Do you have any children aged 18 years or older?

- Yes CONTINUE
- No CONTINUE

GET A GOOD MIX IN ALL GEN POP GROUPS OF PARTICIPANTS WITH/WITHOUT CHILDREN. FOR THOSE WITH CHILDREN, GET A GOOD MIX OF PARTICIPANTS WITH CHILDREN UNDER AND OVER 18 YEARS OF AGE AS WELL AS BY TOTAL NUMBER OF CHILDREN.

8. What is the highest level of education that you have completed?
   - High school or less CONTINUE
   - Some college CONTINUE
   - Graduated college CONTINUE
   - Some university CONTINUE
   - Undergraduate degree CONTINUE
   - Graduate degree CONTINUE

   GET A GOOD MIX IN ALL GROUPS.

9. Which of the following best describes your household income?
   - Less than $25,000 CONTINUE

- $25,000 - $39,999 CONTINUE
- $40,000 - $59, 999 CONTINUE
- $60,000 - $89,999 CONTINUE
- $90,000 - $99,999 CONTINUE
- $100,000 - $149,999 CONTINUE
- $150,000 - $199,999 CONTINUE
- $200,000 or more CONTINUE
- Prefer not to answer (VOLUNTEERED) CONTINUE

GET A GOOD MIX IN ALL GROUPS.

10. How often do you use the Internet to search for information on topics that interest you?
    - Never CONTINUE
    - Rarely CONTINUE
    - Sometimes CONTINUE
    - Often CONTINUE
    - Very often CONTINUE

    LIMIT THE NUMBER OF THOSE WHO SAY 'NEVERY/RARELY' TO ONE PER GROUP IN ALL GROUPS.

11. And, how often do you watch, listen to or read the news (in print, online, TV or radio)?
    - Never CONTINUE
    - Rarely CONTINUE
    - Sometimes CONTINUE
    - Often CONTINUE
    - Very often CONTINUE

    LIMIT THE NUMBER OF THOSE WHO SAY 'NEVERY/RARELY' TO ONE PER GROUP IN ALL GROUPS.

12. Which of the following statements best describes your role in your household when it comes to grocery shopping or making decisions about the kinds of food items you purchase?

- I am the person in my household who usually shops for groceries or makes decisions about the kinds of food items we purchase CONTINUE
- I share the responsibility for grocery shopping and making decisions about the kinds of food items we purchase about equally with other people in my household CONTINUE
- Someone else in my household usually shops for groceries or makes most of the decisions about the kinds of food items we purchase CONTINUE

LIMIT THE NUMBER OF THOSE WHO SAY 'SOMEONE ELSE' TO ONE PER GROUP IN ALL GROUPS.

13. How long have you lived in or around [insert name of urban center in which recruiting is being undertaken]?

- Less than 1 year CONTINUE
- 1-5 years CONTINUE
- 6-10 years CONTINUE
- 11-20 years CONTINUE
- More than 20 years CONTINUE

LIMIT THE NUMBER OF THOSE WHO SAY 'LESS THAN ONE YEAR' TO ONE PER GROUP IN ALL GROUPS.

14. Gender (by observation)

- Male CONTINUE
- Female CONTINUE

AIM FOR 50/50 GENDER SPLIT IN ALL GROUPS. IF THIS PROVES CHALLENGING, IT IS ACCEPTABLE TO HAVE 60/40 SKEW TOWARDS WOMEN.

15. If you won a million dollars what would be the first two things you would do with the money? (MUST HAVE TWO RESPONSES TO ACCEPT. TERMINATE IF PARTICIPANT RESPONDS IN A FLIPPANT MANNER, REFUSES TO ANSWER OR EXHIBITS DIFFICULTY IN RESPONDING.)

16. During the discussion, you could be asked to look at materials that are pinned up on a wall and to read handouts or other materials in print. You will also be asked to actively participate in a conversation about these materials. Can you think of any reason why you may have difficulty reading the materials or participating in the discussion? You may also be asked to write down a few thoughts on paper. Are you comfortable writing in (English/French)?

TERMINATE IF RESPONDENT OFFERS ANY REASON SUCH AS SIGHT OR HEARING PROBLEM, A WRITTEN OR VERBAL LANGUAGE PROBLEM, A CONCERN WITH NOT BEING ABLE TO COMMUNICATE EFFECTIVELY OR IF YOU AS THE INTERVIEWER HAVE A CONCERN ABOUT THE PARTICIPANT'S ABILITY TO PARTICIPATE EFFECTIVELY.

Invitation

As I mentioned earlier, the group discussion will take place the evening of DATE @ TIME (REFER TO CHART ON PAGE 1) for 2 hours and participants will receive $90 for their time. Would you be willing to attend?

Yes	1	CONTINUE
No	2	THANK AND END

Prior to the group we will call you to confirm your attendance. May I have the phone number at which it is easiest to reach you?

Phone Number:

E-mail Address:

Please consider this as a firm appointment. We would appreciate it if you would show up for the group at least 10 to 15 minutes early. The discussions will start promptly and late entries will not be permitted. You may be required to view some written material during the course of the discussion. If you need glasses to do so, please be sure to have them handy at the time of the group.

2. Moderator's Guide

GMO AWARENESS FOCUS GROUPS
(MAR. 7, 2016)

GENERAL INSTRUCTIONS: - 5 minutes (5:30/7:30 p.m.)

- Welcome participants
- Explain sponsor and purpose of groups – groups being undertaken on behalf of the Government of Canada on the topic of food, including your views on:
    - How foods are produced and manufactured;
    - How you make decisions on behalf of yourself and/or your family when purchasing and consuming a range of food products
- Explain how focus groups work, including:
    - Videotaping and two-way mirror
    - Confidentiality – no attribution of comments to participants and participants' names will not appear in any report
    - Looking for open, honest responses to questions, not necessarily consensus
    - Discussion will last the full 2 hours
- Brief roundtable introductions – tell us a little bit about yourself

INTRODUCTION & WARM-UP: - 5 minutes (5:35/7:35 p.m.)

- Generally, how confident are you in Canada's food safety system? Using a scale of 1-7 where 7 means you are very confident and 1 means you are not at all confident, write down where you would land on that scale. ROUND TABLE. PROBE FOR:
    - For those who said 4 or less, what are some of the issues you are concerned about?
    - ASK ALL: Are there any other issues?

FOOD PURCHASING – DECISION-MAKING PROCESS: - 10 minutes (5:45/7:45 p.m.)

- When you are shopping for food at the grocery store, what kinds of things are you taking into consideration when you make your selection? PROBE FOR: How important is it to you to purchase foods that are (PROBE EACH OF THE FOLLOWING). Do you specifically look for foods that are:
    - Organic
    - Local –
    - Sustainable
    - Fair-trade
    - Nutritional content
    - Affordability
    - Anything else you look for?
    - Why are these things important to you?
    - Which of these are most/least important to you?
- Do the criteria change depending on the type of food you are purchasing? If so, why? (MODERATOR TO LISTEN FOR ANY VOLUNTEERED MENTIONS OF GMO). PROBE FOR:
    - What about for fresh produce (fruits and vegetables)?
    - What about for packaged foods?
    - What about for meat?
    - What about for fish?
- How often do you read the labels on food packages (i.e., the Nutrition Facts Table – show an example)? If so, what are you looking at specifically? Even if you don't read the labels, what do you think should be on it?

Are there certain things you try to avoid when purchasing foods? (i.e., places of origin, ingredients, etc.) If so, what are they? (MODERATOR TO LISTEN FOR ANY VOLUNTEERED MENTIONS OF GMO) PROBE FOR:

- Do these differ depending on whether the food is for you/your family?
- If so, why?

GENERAL APPLICATION OF SCIENCE & TECHNOLOGY IN FOOD PRODUCTION: - 10 minutes (5:55/7:55 p.m.)

- How has science and technology impacted food production? PROBE FOR (MODERATOR TO MAKE LIST ON FLIP CHART):
  - On balance, would you say that science and technology have been more beneficial or more harmful when it comes to food production and manufacturing?
    - How has it been beneficial? In what ways? What are some examples of these types of scientific/technological innovations in food production and manufacturing?
    - How has it been harmful? In what ways? Again, what examples illustrate the more harmful ways in which science/technology has impacted food production and manufacturing?
    - What is your comfort level with science and technology being used in food production?

TOP-OF-MIND AWARENESS AND UNDERSTANDING OF GMOS: - 25 minutes (6:05/8:05 p.m.)

- Have you ever heard of the term GMO? What do you most commonly associate with GMOs?
- PARTICIPANT EXERCISE: Take a moment to complete this short exercise which asks for a brief explanation of what a GMO is and your initial views on GMO's. MODERATOR TO PASS OUT PARTICIPANT EXERCISE A.
- What does GMO stand for? PROBE FOR:
  - What term do you hear more commonly used: GMO, Genetically Modified Food or Genetically Engineered? Does these all mean the same thing? IF NOT: What is the difference?
- If you had to explain what a GM food is to someone else, how would you describe it?
- What are your initial thoughts about GM food? PROBE FOR:
  - What have you heard about GM food?
  - Where have you heard this from? PROBE FOR:
    - Interest groups
    - Online (what websites?)
    - News media
    - Books/authors/films (which ones?)
  - Do you view GM food generally positively or negatively? What are the benefits? What are the risks/concerns? Explain. PROBE FOR:
    - Do you feel they are safe? Explain?
    - What is their impact, if any, on the environment? Explain.
    - Do GM foods have more/less nutritional value relative to non-GM foods? Explain.
- As far as you know, are GM foods available for sale in Canada?
  - IF YES: Is it your view that you are probably consuming GM products now? How comfortable are you with that? What types of foods do you most associate GM food with? Are there some types of foods that you are more/less concerned about when it comes to GM food? PROBE FOR:
    - Produce (fruits and vegetables)
    - Meats
    - Packaged foods
    - Fish
    - Others? What are they?

  - IF NOT: What would your reaction be if GM foods were to be made available for sale in Canada? What's your view on the availability of GM food to consumers, for general consumption by the public? Are there some types of foods you would be more/less concerned about?
- (ASK ALL) Do you think there should be any restrictions?
- Should GM foods be labeled as such in Canada? IF SO: Why? Why is it important to you? PROBE FOR:
  - Should labeling be mandatory or voluntary?
- If you saw a GM label on food, how would you respond? PROBE FOR:
  - Would it impact what you purchase? How would it impact your choices relative to factors such as price, nutritional content, organic, etc.?
  - Would it impact what you purchase for yourself/your family (i.e., children)?

INFORMATION SESSION/MESSAGE TESTING: - 45 minutes (6:30/8:30 p.m.)

- Now, I'm going to share some information about GM foods in the form of a series of statements. MODERATOR TO SHARE HANDOUT OF STATEMENTS AND REVIEW WITH PARTICIPANTS. READ EACH STATEMENT AND PROBE FOR::
  - What's your initial reaction – does this ring true for you? What words or idea specifically are you reacting to?
  - Are there words/phrases that make you feel **more confident** about GM food?
  - Are there words/phrases that make you feel **less confident** about GM food?
  - Are there terms/phrases that you don't understand or that aren't clear?
- ONCE ALL STATEMENTS HAVE BEEN DISCUSSED, ASK: Let's look at the statements as a group. PROBE FOR:
  - Which of the facts/statements did you find most compelling as a reason to permit the sale of GM food?
  - Which of the facts/statements did you find offered most reassurance?
  - Which of the fact/statements addressed the issues about GM food that you were most concerned about, if you had any?
  - What else would you like the Government of Canada to address in order to provide you with more reassurance about the sale of GM food?

WRAP-UP: - 15 minutes (7:15/9:15 p.m.)

- Given everything we have discussed this evening, do you feel you have a better understanding of GMOs or GM foods compared to when you arrived at the focus groups? PROBE FOR:
  - Do you feel any differently about GM food?
  - Have your views on GM food changed with respect to:
    - How safe they are?
    - Impact on the environment?
    - Sale of GM food products to consumers?
  - What specifically caused your views to change? Was it a particular fact or piece of information?
  - Was there something that you learned about GM foods that you didn't know before?
- What questions, if any, do you still have about GM food?

THANK PARTICIPANTS AND END SESSION (7:30/9:30 p.m.)

3. Participant Exercise

PLEASE CIRCLE THE LOCATION AND TIME OF YOUR FOCUS GROUP

LOCATION: Halifax Toronto Quebec City Saskatoon Vancouver

TIME: 5:30 p.m. 7:30 p.m.

1. What do the letters GMO stand for:

2. In the context of food, what is a GMO? Complete the sentence … "A GMO is …"

3. Please circle the number of the scale that best reflects your point of view about GMOs/GM food, based on your knowledge and/or impressions.

GMO's are bad for the environment [1]
[2]
[3]
GMO's have no impact on the environment [4]
[5]
[6]
GMO's are good for the environment [7]
I don't know [99]

GMO's are harmful to our food system [1]
[2]
[3]
GMO's are neither harmful nor beneficial [4]
[5]
[6]
GMO's are a beneficial part of our food system [7]
I don't know [99]

I complete oppose the sale of GMO foods [1]
[2]
[3]
I neither support nor oppose the sale of GMO foods [4]
[5]
[6]
I completely support the sale of GMO foods [7]
I don't know [99]

GMO foods are not safe at all [1]
[2]
[3]
[4]
[5]
[6]
GMO foods are completely safe [7]
I don't know [99]

4. Key Messages

Introduction*:* *To help us with our discussion about GMOs, we have a series of statements that we would like to discuss. You don't need to write them down – we'll post each one while we are discussing it.*

1. Scientists have concluded that genetically modified foods pose no more risk to human health than conventional foods. In fact, foods from genetically modified plants are subject to a far higher level of regulatory oversight and of scientific requirements than traditionally bred plants. Each new GM crop is subject to a thorough and robust food safety assessment before it is allowed on the Canadian market.

2. Foods from genetically modified plants authorized to date are as safe and nutritious as foods from traditionally bred plants. Nutritional assessments for foods from genetically engineered plants that have been evaluated by the Government of Canada through our safety assessment process have shown that GM foods are generally as nutritious as foods from comparable traditionally bred plants.

3. All GM crops and their products are subjected to a rigorous environmental, livestock feed and food safety assessment before they move into the marketplace. Scientists from the Government of Canada are responsible for a critical review of the data collected from laboratory and field experiments conducted by the proponent.

4. Before it can sell any genetically modified (GM) food in Canada, a company must file a pre-market notification with the Government of Canada, which triggers a comprehensive safety assessment to ensure the food is safe and nutritious. This assessment is carried out by a team of molecular biologists, toxicologists, nutritionists, chemists and microbiologists who use international standards as their guide.

5. The approach taken by the Government of Canada in the safety assessment of GM foods is based upon scientific principles developed through expert international consultation over the last twenty years with agencies such as the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), and the Organization for Economic Co-operation and Development (OECD). The approach taken by Canada is currently applied by regulatory agencies around the world in countries such as the European Union, Australia/New Zealand, Japan, and the United States.

6. The Government of Canada is committed to transparency and evidence-based decision-making. A summary of the Government of Canada safety assessment for every GM food is available online.

7. It typically takes a company seven to ten years to research, develop and test a GM food before it has compiled enough data to submit a pre-market notification for a GM food to the Government of Canada.

8. The Government of Canada is responsible for ensuring that all foods available on the Canadian market - including those derived from biotechnology - are safe. The Government of Canada takes a

cautious, case-by-case approach, employing the best practices and current international scientific evidence to determine if a GM food should be permitted for sale.

9. Because GM food is a worldwide issue, the Government of Canada's cooperation with international counterparts and organizations is vitally important to share knowledge and address the challenges that new technologies present. By building on existing international collaborations in scientific and regulatory areas, Canada is better able to more effectively regulate GM foods.

10. Currently, food manufacturers may indicate through voluntary labelling whether foods have or have not been developed through genetic engineering, provided that such labeling is truthful and not misleading. This is consistent with the approach taken in other countries, including the United States.

11. Special labelling is mandatory for all foods, including GM foods, where significant nutritional changes or clear scientifically established health risks exist and can be mitigated by labelling. To date, the Government of Canada has not identified any health and safety concerns that would require the mandatory labelling of any GM foods assessed by the Department.

12. Consumers wishing to avoid consuming foods that may be derived from a genetically modified source may do so by choosing foods that indicate that they are not products of genetic engineering.

Appendix B: Quantitative Research Instruments

1. GMO Awareness Survey

GMO AWARENESS SURVEY – FINAL (MAR. 22, 2016)

NOTE FOR HEALTH CANADA: All brackets with caps lock text are programming notes which will not appear in survey.

SCREENING QUESTIONS

SC

First, we have a few questions about you.

1. What is your gender?

- Male
- Female
- Prefer not to answer (PN: THANK AND TERMINATE)

(PN: ADHERE TO 50/50 MALE/FEMALE SPLIT)

SC

2. What is your age?

- Under 18 years of age (THANK AND TERMINATE)
- 19-24
- 25-29
- 30-34
- 35-39
- 40-44
- 45-49
- 50-54
- 55-59
- 60-64
- 65 or older
- Prefer not to answer (PN: THANK AND TERMINATE)

(PN: ADHERE TO SOFT QUOTAS FOR AGE)

HAGE

- 18-34
- 35-44
- 45-54
- 55+

SC

3. In which province or territory do you reside?

- Newfoundland and Labrador
- Nova Scotia
- Prince Edward Island
- New Brunswick
- Ontario
- Quebec
- Manitoba
- Saskatchewan
- Alberta
- British Columbia
- NWT, Yukon or Nunavut
- Prefer not to answer (PN: THANK AND TERMINATE)

(PN: ADHERE TO QUOTAS FOR REGION)

HREGION1

ATL: Q3= NEWFOUNDLAND / NOVA SCOTIA / PRINCE EDWARD ISLAND / NEW BRUNSWICK

ONTARIO

QUEBEC

MN/SK: Q3=MANITOBA / SASKATCHEWAN

ALBERTA

BC: Q3=British Columbia or NWT, Yukon or Nunuvut

(FSA FORMAT – ALPHA, NUMERIC, ALPHA)

(VALIDATE FSA AGAINST PROVINCE LIST)

4. Please indicate the first three digits of your postal code.

_____ _____ _____

HREGION2 – ASSIGN BASED ON HREGION FSA LIST
NEWFOUNDLAND
PEI
HALIFAX
BALANCE NS
MONTREAL
BALANCE PQ
OTTAWA
TORONTO
BALANCE ON
WINNIPEG
BALANCE MB
BALANCE SK
EDMONTON
CALGARY
BALANCE AB
VANCOUVER
BALANCE BC

SC

5. How many children do you have living at home with you who are under 18 years of age?

- None SKIP TO Q.7.
- CONTINUE
- CONTINUE
- CONTINUE
- 4 or more CONTINUE
- Prefer not to answer (PN: THANK AND TERMINATE)

(PN: ADHERE TO QUOTAS FOR PARENTS OF CHILDREN UNDER 18 YEARS OF AGE)

HPARENT
PARENT: Q5=OPTONS 2, 3,4 OR 5
NON PARENT: Q5= NONE (OPTION 6)

MC
VALIDATION: NUMBER OF RANGES SELECTED AT Q6 MUST NOT EXCEED NUMBER OF CHILDREN MENTIONED AT Q5

6. Please indicate into which age group(s) your children fall. Choose all that apply.

- years of age
- 2-4 years of age
- 5-8 years of age
- 9-13 years of age
- 14-17 years of age
- Prefer not to answer (PN: THANK AND TERMINATE)

F. GENERAL FOOD PROFILE, PRIORITIES WHEN SHOPPING AND INTEREST IN FOOD/FOOD-RELATED TOPICS

The next few questions inquire about your role in shopping for food and preparing meals, including what's important to you when deciding on the kinds of food you/your family eat.

GRID, SC PER ROW

7. In your household, how much responsibility do you have for each of the following?

(PN: RANDOMIZE)

- a. Shopping for groceries [NONE/SOME/MOST/ALL]
- b. Making meals [NONE/SOME/MOST/ALL]
- c. Selecting recipes or choosing the type of meal that will be prepared NONE/SOME/MOST/ALL

MC

MIN 1 SELECTION, MAX 3 SELECTIONS

8. People take a range of factors into consideration when shopping for foods. Regardless of whether you are responsible for grocery shopping in your household, please choose up to 3 considerations which are (or would be) most important to you personally when purchasing food.. (PN: RANDOMIZE ITEMS IN LEFT COLUMN)

- Price (1)
- Convenience in terms of food preparation (2)
- Locally grown or raised (3)

- Where the food was produced or made (i.e., place of origin) (None of these are important considerations for me EXCLUSIVE)
- Food is certified as organic (None of these are important considerations for me EXCLUSIVE)
- Food was produced without the use of hormones or antibiotics (None of these are important considerations for me EXCLUSIVE)
- Food was not factory farmed (None of these are important considerations for me EXCLUSIVE)
- Food is identified as natural, free-range or grass-fed (None of these are important considerations for me EXCLUSIVE)
- Food was produced in a socially, environmental and economically responsible way (None of these are important considerations for me EXCLUSIVE)
- Food does not contain an ingredient derived from a genetically modified organism (GMO) (None of these are important considerations for me EXCLUSIVE)
- Nutritional content (None of these are important considerations for me EXCLUSIVE)
- Familiarity with the product (i.e., you buy it on a regular basis) (None of these are important considerations for me EXCLUSIVE)
- Brand (None of these are important considerations for me EXCLUSIVE)

MC

MIN 1 SELECTION, MAX 3 SELECTIONS

9. (IF '1 OR MORE CHILDREN UNDER 18' AT. Q.5, ASK): Are these considerations different when purchasing food for your children? Again, regardless of whether or not you are responsible for grocery shopping in your household, please choose up to 3 considerations which are (or would be) most important to you when purchasing food for your children. . (PN: RANDOMIZE ITEMS IN LEFT COLUMN)

- Price [1]
- Convenience in terms of food preparation [2]
- Locally grown or raised [3]
- Where the food was produced or made (i.e., place of origin) [None of these are important considerations for me EXCLUSIVE]
- Food is certified as organic [None of these are important considerations for me EXCLUSIVE]
- Food was produced without the use of hormones or antibiotics [None of these are important considerations for me EXCLUSIVE]

- Food was not factory farmed [None of these are important considerations for me EXCLUSIVE]
- Food is identified as natural, free-range or grass-fed [None of these are important considerations for me EXCLUSIVE]
- Food was produced in a socially, environmental and economically responsible way [None of these are important considerations for me EXCLUSIVE]
- Food does not contain an ingredient derived from a genetically modified organism (GMO) [None of these are important considerations for me EXCLUSIVE]
- Nutritional content [None of these are important considerations for me EXCLUSIVE]
- Familiarity with the product (i.e., you buy it on a regular basis) [None of these are important considerations for me EXCLUSIVE]
- Brand [None of these are important considerations for me EXCLUSIVE]
- The considerations are the same whether food is purchased for me/my children [None of these are important considerations for me EXCLUSIVE]

GRID, SC PER ROW

10. Overall, how confident would you say you are in Canada's food safety system … the system that is responsible for protecting Canadians from preventable food safety hazards and managing any food safety emergencies?

- [1] Not at all confident
- [2]
- [3]
- [4] Moderately confident
- [5]
- [6]
- [7] Very confident

GRID, SC PER ROW

11. Please indicate how much attention you pay to each of the following.

(PN: RANDOMIZE ITEMS A-E)

- Stories in the media about the impact of science and technology on food production and manufacturing [NONE/NOT VERY MUCH/SOME/A LOT]

- Documentaries or videos about food, including how it's produced and manufactured [NONE/NOT VERY MUCH/SOME/A LOT]
- Reporting in the media about issues related to food safety [NONE/NOT VERY MUCH/SOME/A LOT]
- Stories in the media about the latest diet trends [NONE/NOT VERY MUCH/SOME/A LOT]
- Stories and advertising appearing in social media (Facebook and Twitter) on food [NONE/NOT VERY MUCH/SOME/A LOT]

GRID, SC PER ROW

12. When it comes to purchasing or consuming foods, how often, if ever, do you look at each of the following? (PN: RANDOMIZE ITEMS A-B)

- The ingredients listed on food packages [NEVER/RARELY/SOMETIMES/FREQUENTLY/ALWAYS]
- The Nutrition Facts Table which is shown on all packaged food products and gives you information on serving size, calories and the % Daily Value as well as different nutrients (sodium, sugars, etc.) contained in the product [NEVER/RARELY/SOMETIMES/FREQUENTLY/ALWAYS]

SC

13. Thinking about the way food is currently labeled, is there any additional information you would like to see included on food labels?

- Yes
- No **(PN: SKIP TO Q.15)**

OE CHA

14. What additional information would you be interested in seeing on food labels? (PN: OPEN END)

B. KNOWLEDGE OF/VIEWS ON FOOD PRODUCTION, SCIENCE & TECHNOLOGY

Now, we have a few questions relating to your general views on food, food production and manufacturing.

GRID, SC PER ROW

15. On balance, what do you believe has been the impact of science and technology on the quality of each of the following? (PN: RANDOMIZE ITEMS A-D)

- Food [MOSTLY NEGATIVE/NOT HAD MUCH OF AN EFFECT/MOSTLY POSITIVE/DON'T KNOW]
- Health care [MOSTLY NEGATIVE/NOT HAD MUCH OF AN EFFECT/MOSTLY POSITIVE/DON'T KNOW]
- The environment [MOSTLY NEGATIVE/NOT HAD MUCH OF AN EFFECT/MOSTLY POSITIVE/DON'T KNOW]
- Agricultural production [MOSTLY NEGATIVE/NOT HAD MUCH OF AN EFFECT/MOSTLY POSITIVE/DON'T KNOW]

SCALE

16. How would you rate your own basic understanding of how food is grown and produced?

- Very Poor
- Poor
- Fair
- Good
- Very Good

GRID, SC PER ROW

17. Do you feel that, compared to what people ate 50 years ago, food available in grocery stores …

(PN: RANDOMIZE ITEMS A-I)

- a. Is healthier now [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- b. Tastes better now [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- c. Is safer now [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- d. Is more nutritious now [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- e. Has more preservatives now [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]

- f. Is less expensive now, relative to the cost of living [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- g. Is fresher now [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- h. Has more pesticides now [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- i. Has a longer shelf life now [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]

GRID, SC PER ROW

18. When you hear each of the following terms, are your thoughts and impressions positive, negative or neutral?

(PN: RANDOMIZE ITEMS A-C)

- Food biotechnology [EXTREMELY NEGATIVE/SOMEWHAT NEGATIVE/ NEUTRAL/SOMEWHAT POSITIVE/EXTREMELY POSITIVE]
- Genetic engineering [EXTREMELY NEGATIVE/SOMEWHAT NEGATIVE/ NEUTRAL/SOMEWHAT POSITIVE/EXTREMELY POSITIVE]
- Genetic modification [EXTREMELY NEGATIVE/SOMEWHAT NEGATIVE/ NEUTRAL/SOMEWHAT POSITIVE/EXTREMELY POSITIVE]

GRID, SC PER ROW

19. When it comes to food production and manufacturing, how concerned would you say you are about each of the following?

(PN: RANDOMIZE ITEMS A-H)

- The impact on the environment related to food production [1 – NOT AT ALL CONCERNED / 2 / 3 / 4 / 5 / 6 / 7 – EXTREMELY CONCERNED / DON'T KNOW]
- The cost of food [1 – NOT AT ALL CONCERNED / 2 / 3 / 4 / 5 / 6 / 7 – EXTREMELY CONCERNED / DON'T KNOW]
- The sustainability of the food supply [1 – NOT AT ALL CONCERNED / 2 / 3 / 4 / 5 / 6 / 7 – EXTREMELY CONCERNED / DON'T KNOW]
- The availability of fresh food throughout the year [1 – NOT AT ALL CONCERNED / 2 / 3 / 4 / 5 / 6 / 7 – EXTREMELY CONCERNED / DON'T KNOW]

- The accuracy of the information contained on the labels of food products [1 – NOT AT ALL CONCERNED / 2 / 3 / 4 / 5 / 6 / 7 – EXTREMELY CONCERNED / DON'T KNOW]
- The use of herbicides and pesticides in food production [1 – NOT AT ALL CONCERNED / 2 / 3 / 4 / 5 / 6 / 7 – EXTREMELY CONCERNED / DON'T KNOW]
- The use of antibiotics and growth hormones in food production [1 – NOT AT ALL CONCERNED / 2 / 3 / 4 / 5 / 6 / 7 – EXTREMELY CONCERNED / DON'T KNOW]
- The use of genetic modification in food production [1 – NOT AT ALL CONCERNED / 2 / 3 / 4 / 5 / 6 / 7 – EXTREMELY CONCERNED / DON'T KNOW]

GRID, SC PER ROW

20. How would you rate your own understanding of each of the following areas of food technology?

(PN: RANDOMIZE ITEMS A-C)

- Food biotechnology [VERY POOR/POOR/FAIR/GOOD/VERY GOOD]
- Genetic engineering [VERY POOR/POOR/FAIR/GOOD/VERY GOOD]
- Genetic modification [VERY POOR/POOR/FAIR/GOOD/VERY GOOD]

C. ATTITUDES TOWARDS GM FOODS

These next few questions focus on the topic of genetically modified (GM) foods.

SCALE

21. When it comes to food shopping, how often, if ever, do you look to see if the products are genetically modified?

- Never
- Rarely
- Sometimes
- Frequently
- Always

GRID, SC PER ROW

22. When you are shopping for foods, how easy or difficult is it to tell …

(PN: RANDOMIZE ITEMS A-C)

- a. Whether the product is organic [VERY DIFFICULT/DIFFICULT/NEITHER EASY NOR DIFFICULT/EASY/VERY EASY]

- b. Whether the product is GMO-free (i.e., not genetically modified) [VERY DIFFICULT/DIFFICULT/NEITHER EASY NOR DIFFICULT/EASY/VERY EASY]
- c. Where the product has been produced (i.e., the origin of the product) [VERY DIFFICULT/DIFFICULT/NEITHER EASY NOR DIFFICULT/EASY/VERY EASY]

GRID, SC PER ROW

RANDOMIZE STATEMENTS FROM Q23A AND Q23B AS IF THEY ARE FROM ONE LIST. SO ITEMS FROM 23A MAY SHOW UP ON THE LIST AT 23B AND VICE VERSA. PLEASE TRACK ORDER IN WHICH STATEMENTS APPEAR

23A. Please indicate whether you agree or disagree with the following statements about genetically modified (GM) foods.

(PN: RANDOMIZE ITEMS A-S)

- a. Genetically modified foods are safe to eat. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- b. Genetically modified foods are as nutritious as other non-GM foods. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- c. Scientists have a clear understanding of the health effects of genetically modified foods. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- d. Genetically modified foods undergo thorough testing and evaluation before they are approved for sale to consumers. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- e. I would be comfortable eating foods that have been genetically modified. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- f. As far as I know, genetically modified foods are available for sale in Canada. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- g. Genetically modified foods allow us to produce more affordable foods for consumers. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]

- h. Genetically modified foods are being marketed to consumers as a way for corporations to increase their profits, without regard to their impact on consumers. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- i. Genetically modified foods are not real foods. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- j. Genetically modified foods pose a significant risk to the environment. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]

23B. Please indicate whether you agree or disagree with this next series of statements about genetically modified (GM) foods.

(PN: RANDOMIZE ITEMS A-S)

- k. All genetically modified foods should be clearly labeled as such on the package. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- l. If I had a choice, I would always choose a non-GM food over a genetically modified food. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- m. The practice of genetically modifying foods is important to ensuring our food supply in Canada. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- n. I support the development and sale of genetically modified foods in Canada. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- o. Genetically modified foods are tightly regulated in Canada. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- p. I would buy genetically modified food if it were cheaper than the non-GM food alternative. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]

- q. Genetically modified foods threaten the natural order of things. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- r. Serious accidents involving genetically modified foods are bound to happen. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- s. I don't really understand why we need to produce genetically modified foods for consumers in Canada. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]

GRID, SC PER ROW

24. Please indicate whether you think each of the following statements is true or false.

(PN: RANDOMIZE ITEMS A-I)

- Ordinary tomatoes do not contain genes while genetically modified tomatoes do [TRUE/FALSE]
- By eating a genetically modified fruit, a person's genes could also become modified [TRUE/FALSE]
- Genetically modified animals are always bigger than ordinary animals [TRUE/FALSE]
- It is not possible to transfer animal genes to plants [TRUE/FALSE]
- Tomatoes genetically modified with genes from catfish would probably taste fishy [TRUE/FALSE]
- Genetically modified foods are created using radiation to create genetic mutations [TRUE/FALSE]
- The cloning of living things produces genetically identical copies [TRUE/FALSE]
- The yeast used to produce beer contains living organisms [TRUE/FALSE]
- The corn grown by North American First Nations thousands of years ago looks pretty much the same as corn grown by our grandparents 50 years ago [TRUE/FALSE]

GRID, SC PER ROW

25. The following are some **facts** about genetically modified foods. To what extent does knowing this make you feel more or less comfortable with the development and sale of genetically modified (GM) foods in Canada? **(PN: RANDOMIZE ITEMS A-N)**

- Producing GM crops allows farmers to use their land more efficiently. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]

- GM foods produce bigger yields, creating a larger food supply for consumers. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- GM foods can be created to have a longer shelf life and making shipping the products easier. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- GM foods allow companies to produce foods that are more affordable for consumers. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- GM foods are a sustainable way to feed the Canadian population. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- GM foods can be created to have better nutritional value. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- GM foods use less herbicides and pesticides compared to other non-GM food and crops. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- GM crops can be created to tolerate poor soil conditions and harsh growing environments. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- Scientists have concluded that GM foods pose no more risk to human health than conventional foods. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- Scientists from the Government of Canada have consulted with international experts over the last twenty years to develop a safe approach to assessing GM foods. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- Assessments of GM foods are carried out by teams of scientists, including molecular biologists, toxicologists, nutritionists, chemists and microbiologists who use international standards as their guide. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]

- A summary of all Government of Canada safety assessments for every GM food is available online for consumers to access. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- It typically takes a company 7-10 years to research, develop and test a GM food before it has compiled enough data to submit an application for approval of the food by the Government of Canada for sale to consumers. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]
- The approach taken by Canada in conducting safety assessments of GM foods is the same as that applied by regulatory agencies in other countries such as the European Union, Australia, New Zealand, Japan and the United States. [A LOT LESS COMFORTABLE/SOMEWHAT LESS COMFORTABLE/NEITHER MORE NOR LESS COMFORTABLE/SOMEWHAT MORE COMFORTABLE/A LOT MORE COMFORTABLE]

GRID, SC PER ROW

26. After reading some facts in the previous question about genetically modified foods, please indicate whether you agree or disagree with the following statements about GM Foods. **(PN: RANDOMIZE ITEMS A-B)**

- a. Genetically modified foods are safe to eat. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]
- b. I would be comfortable eating foods that have been genetically modified. [STRONGLY DISAGREE/SOMEWHAT DISAGREE/NEITHER AGREE NOR DISAGREE/SOMEWHAT AGREE/STRONGLY AGREE/DON'T KNOW]

D. CREDIBILITY OF SPOKESPEOPLE

These next few questions ask about your media habits.

GRID, SC PER ROW

27. **During the last week**, how often did you do each of the following activities?

(PN: RANDOMIZE ITEMS A-F)

- a. Read a newspaper in print or online [NEVER/ONCE/MORE THAN ONCE, BUT NOT EVERYDAY/EVERYDAY]

- b. Watch the national news on television or online [NEVER/ONCE/MORE THAN ONCE, BUT NOT EVERYDAY/EVERYDAY]
- c. Watch the local news on television or online [NEVER/ONCE/MORE THAN ONCE, BUT NOT EVERYDAY/EVERYDAY]
- d. Listen to talk radio [NEVER/ONCE/MORE THAN ONCE, BUT NOT EVERYDAY/EVERYDAY]
- e. Read a news magazine in print or online [NEVER/ONCE/MORE THAN ONCE, BUT NOT EVERYDAY/EVERYDAY]
- f. Listen to a podcast [NEVER/ONCE/MORE THAN ONCE, BUT NOT EVERYDAY/EVERYDAY]

GRID, SC PER ROW

28. How trustworthy do you find each of the following as sources of information about food safety and nutrition? **(PN: RANDOMIZE ITEMS A-H)**

- a. Traditional media/reporters (TV, newspaper, radio) [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- b. Social media (including food bloggers) [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- c. Government of Canada [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- d. The nutrition labels (Nutrition Facts tables) found on food packages [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- e. Health and nutrition professionals (including health care professionals, nutritionists) [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- f. International organizations such as the World Health Organization and the Food and Agriculture Organization of the United Nations [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- g. Scientists working for food products companies [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- h. Farmers who produce the foods [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]

- i. Environmental activists (including information on websites and blogs) [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- j. A spokesperson for the food industry association or the grocers association [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- k. A spokesperson for the organics/natural health products industry [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]
- l. A spokesperson representing the genetically modified seed producers [NOT TRUSTWORTHY AT ALL/NOT VERY TRUSTWORTHY/SOMEWHAT TRUSTWORTHY/VERY TRUSTWORTHY]

E. Demographics

These final few questions are for statistical purposes only. Your responses will be aggregated with those of other respondents to the survey and will help us to analyse different sub-groups of the population.

SC

29. Which of the following categories best describes your total household income in 2015? That is, the total income of all persons in your household combined, before taxes?

- Under $20,000
- $20,000 to just under $40,000
- $40,000 to just under $60,000
- $60,000 to just under $80,000
- $80,000 to just under $100,000
- $100,000 to just under $150,000
- $150,000 and above
- Prefer not to answer

SC

30. What is the highest level of formal education that you have completed?

- Grade 8 or less
- Some high school
- High School diploma or equivalent

- Registered Apprenticeship or other trades certificate or diploma
- College, CEGEP or other non-university certificate or diploma
- University certificate or diploma below bachelor's level
- Bachelor's degree
- Post graduate degree above bachelor's level
- Prefer not to answer

31. Which of the following best describes your current employment status? Are you …

- Working full-time, that is, 35 or more hours per week
- Working part-time, that is, less than 35 hours per week
- Self-employed
- Unemployed, but looking for work
- A student attending school full-time
- Retired
- Not in the workforce (i.e., Full-time homemaker, unemployed, not looking for work)
- Other
- Prefer not to answer

SC

32. What is your marital status?

- Single, never married
- Married or domestic partnership
- Widowed
- Divorced or separated
- Prefer not to answer

SC

33. Were you born in Canada?

- Yes (PN: SKIP TO Q.35)
- No

- Prefer not to answer (PN: SKIP TO Q.35)

SC

34. How many years have you lived in Canada?

- Less than 5 years
- 5 – 9 years
- 10 – 19 years
- 20 – 29 years
- 30 or more years
- Prefer not to answer

MC

35. Which of the following best describes your ethnic heritage? Select all that apply.

- White/European (for example, German, Irish, English, Italian, French, Polish, etc.)
- Hispanic, Latino, Spanish (for example, Mexican, Cuban, Salvadoran, Columbian, etc.)
- Black or African American (for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, etc.)
- East Asian (for example, Chinese, Filipino, Vietnamese, Korean, etc.)
- South Asian (for example, East Indian, Pakistani, etc.)
- Middle Eastern or North African (for example, Lebanese, Iranian, Syrian, Moroccan, Algerian, etc.)
- Aboriginal
- Other
- Prefer not to answer

SC

36. What language do you speak most often at home? Select all that apply.

- English
- French
- Other

- Prefer not to answer

SC

37. Does any member of your family have a medical condition (i.e., food allergy) that you must take into account when purchasing food?

- Yes
- No
- Don’t Know
- Prefer not to answer

Thank you for participating in the survey!