

# Biotechnology in Food: Canadian Attitudes towards Genetic Engineering in both Plant- and Animal-based Foods

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Preliminary Results *(more results available on request)*

# Highlights of the Study (1)

1. **Confusion:** Most Canadians are confused about safety, health effects of Genetically Modified (GM) foods and ingredients, do not perceive benefits for the consumer. Most consumers unsure if they have bought a GM food product, or one with a GM ingredient;
2. **Regional differences:** Quebec most concerned about safety of GM foods/ingredients, Prairies are least concerned;
3. **Labelling:** Canadians overwhelmingly supportive of mandatory labelling, but not necessarily just for food safety reasons. Price appears to be seen as a significant differentiation factor should mandatory labelling policy be implemented.



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# Highlights of the Study (2)

1. **Food categories:** Canadians more concerned about GM fish and seafood than any other category.
2. **Animal-based GM** products appear to concern Canadians more than plant-based GM foods/ingredients;
3. **Age:** The older the respondent, the less likely s/he believes GM labelling regulations are sufficient in Canada;
4. **Age:** Older respondents are less likely to believe testing is sufficient in Canada;
5. **Income, marital status and education** are not significant determinants of trust in GM foods;
6. **Men** are more likely than women to believe GM food/ingredients are safe to eat, and that labelling regulations are sufficient.

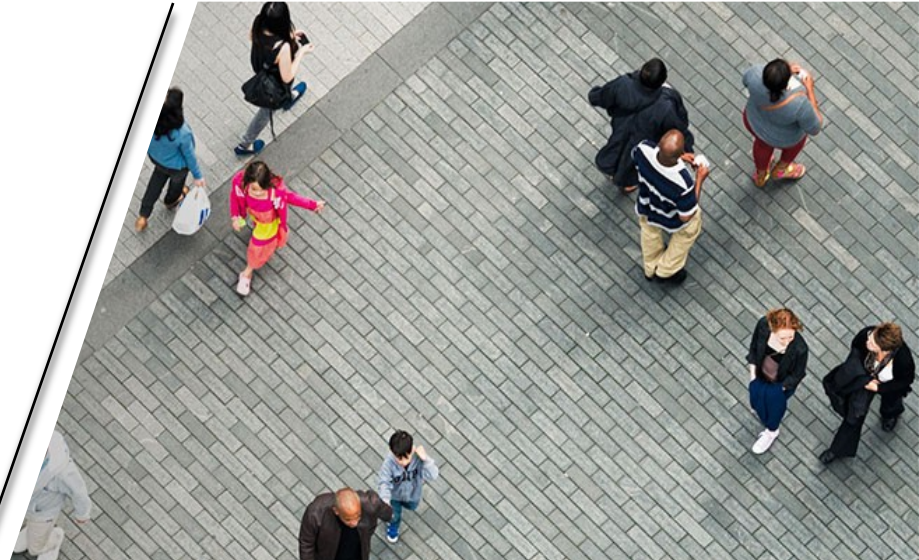


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# Survey Performance (1)

- Aim of survey: To measure Canadian attitudes towards genetic engineering in food, for both plant-based and livestock, assess trust towards food safety and overall regulatory system in Canada;
- Respondents were informed about genetic engineering in food before survey, in uncomplicated terms;
- Survey duration: 3 days, May 2018;
- Sample size:  $n=1046$ .



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# Survey Performance (2)

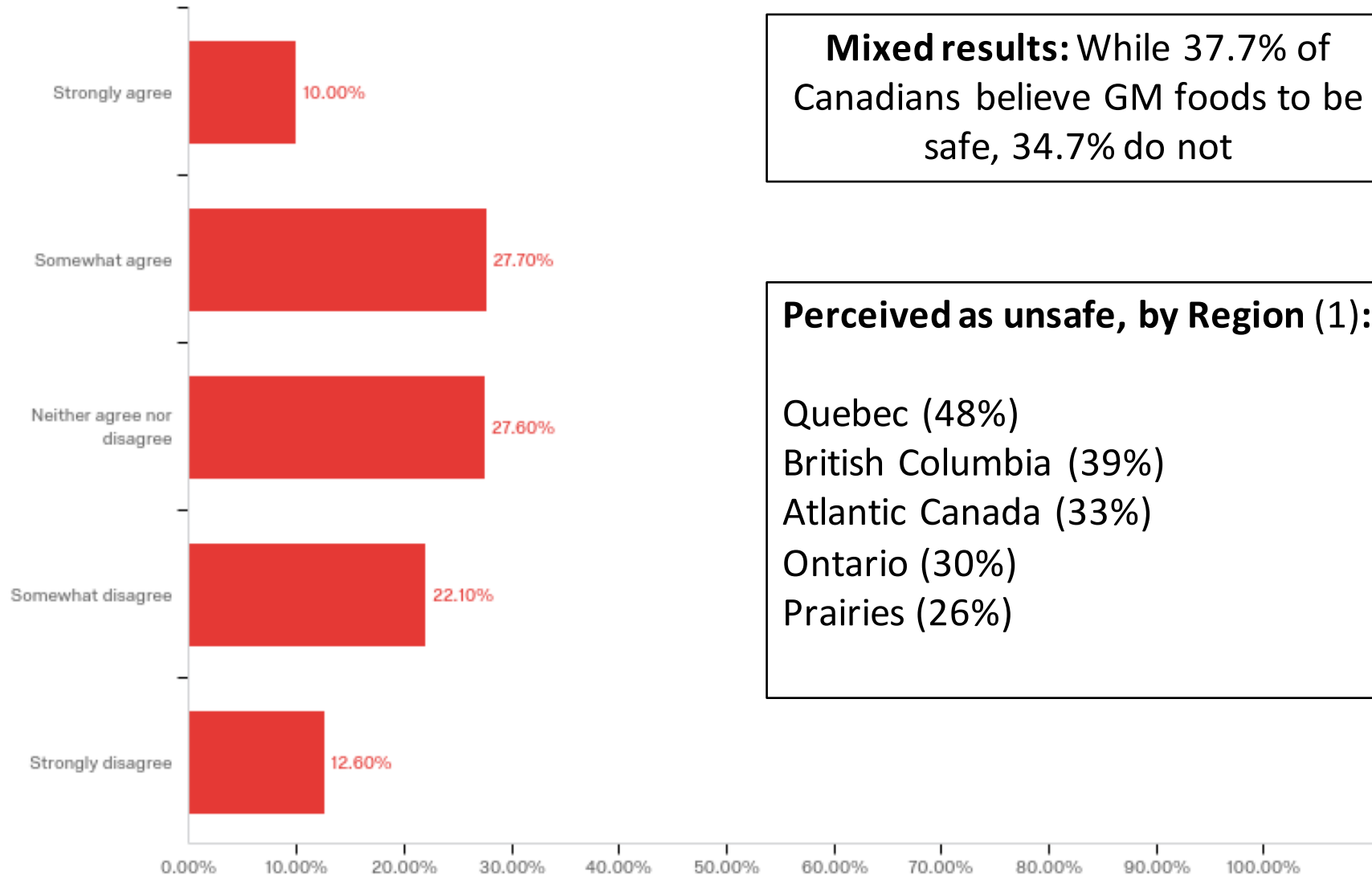
- Bilingual survey, cross-Canada study (including Québec);
- Respondents were required to be 18 years old and living in Canada for at least 12 months;
- Completion rate: 97%;
- Average duration of survey: 5.2 minutes;
- Sampling: Convenience, representative sample for Canadian market;
- Estimated margin of error: 3.1%, 19 times out of 20 (not same parameters as online surveys)



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Genetically modified (or engineered) ingredients and foods are safe to eat.



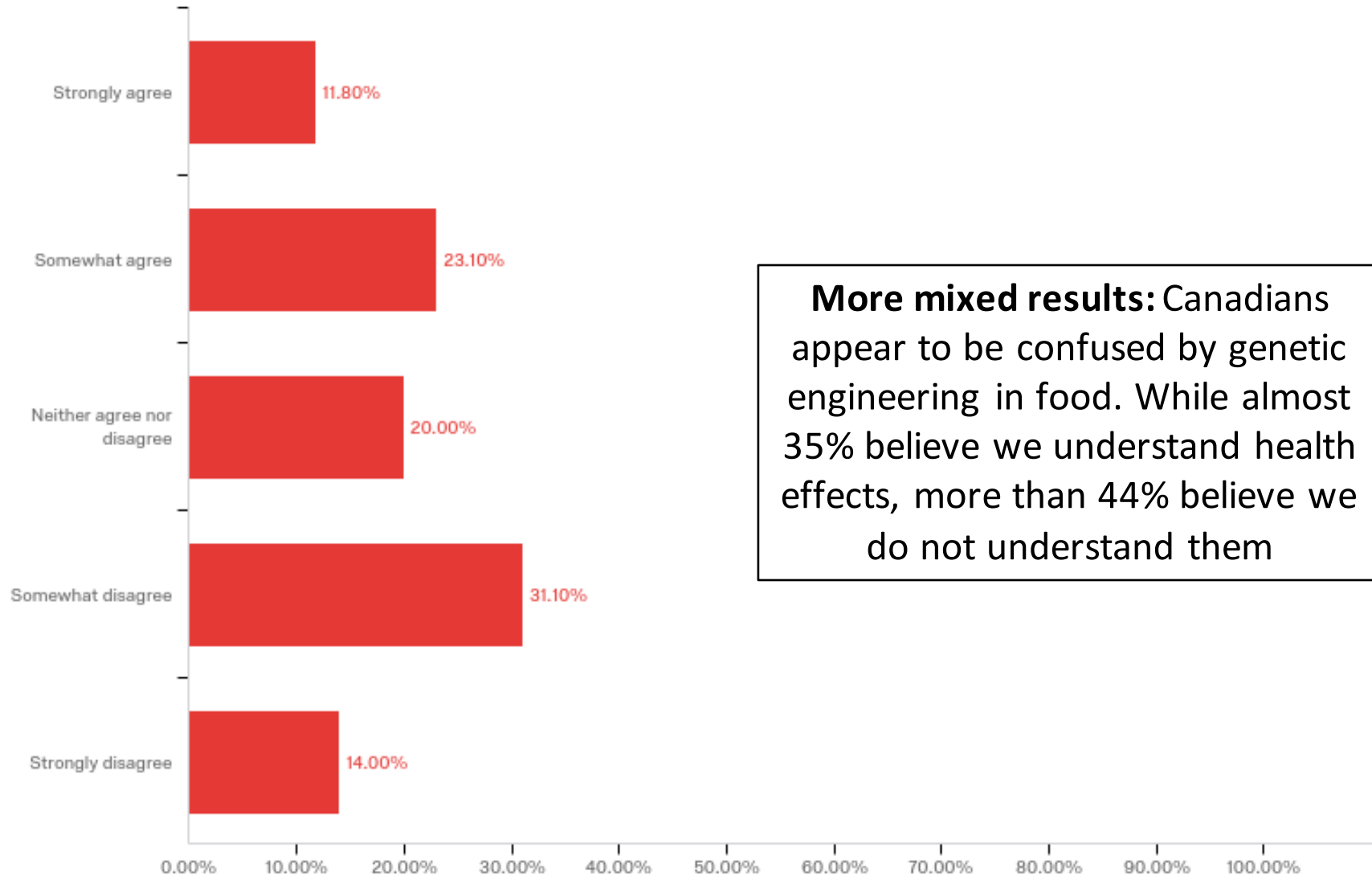
**Mixed results:** While 37.7% of Canadians believe GM foods to be safe, 34.7% do not

**Perceived as unsafe, by Region (1):**

- Quebec (48%)
- British Columbia (39%)
- Atlantic Canada (33%)
- Ontario (30%)
- Prairies (26%)

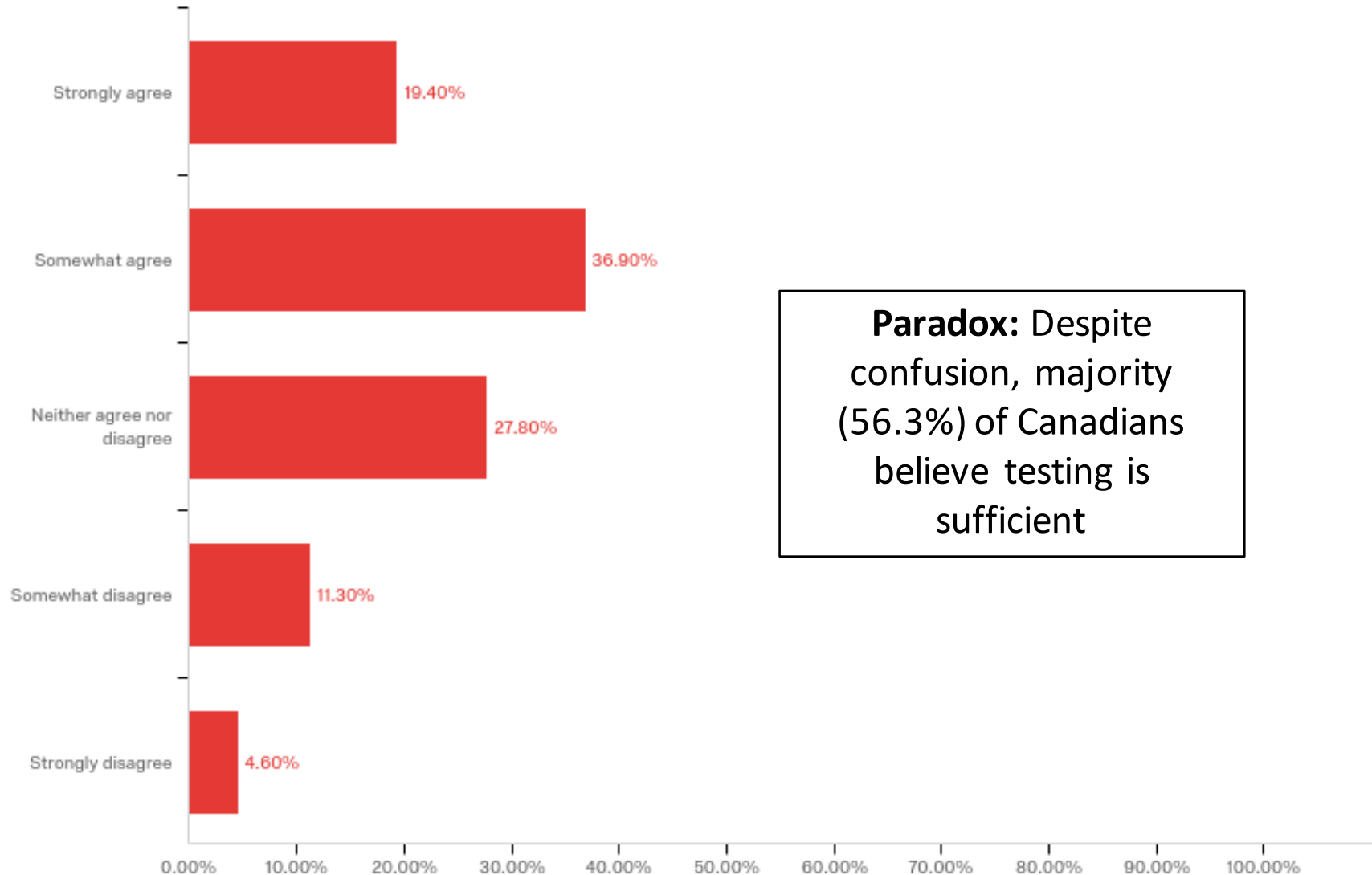
(1) Margin of error may vary, both "Somewhat Disagree" and "Strongly Disagree" combined

There is a clear understanding of the health effects of genetically modified (or engineered) foods.



**More mixed results:** Canadians appear to be confused by genetic engineering in food. While almost 35% believe we understand health effects, more than 44% believe we do not understand them

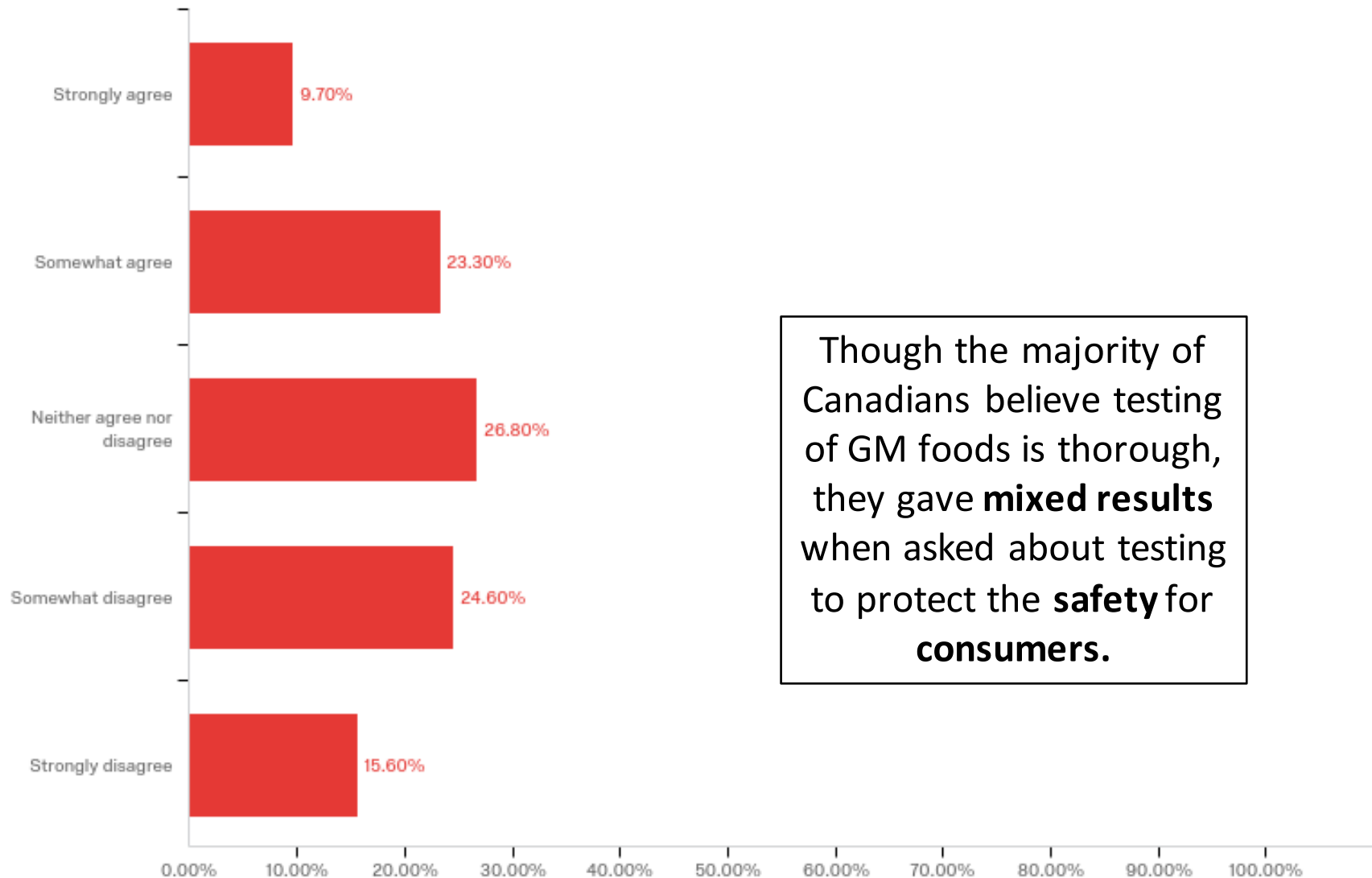
Before they reach the consumer, genetically modified (or engineered) foods undergo thorough testing and study.



**Paradox:** Despite confusion, majority (56.3%) of Canadians believe testing is sufficient

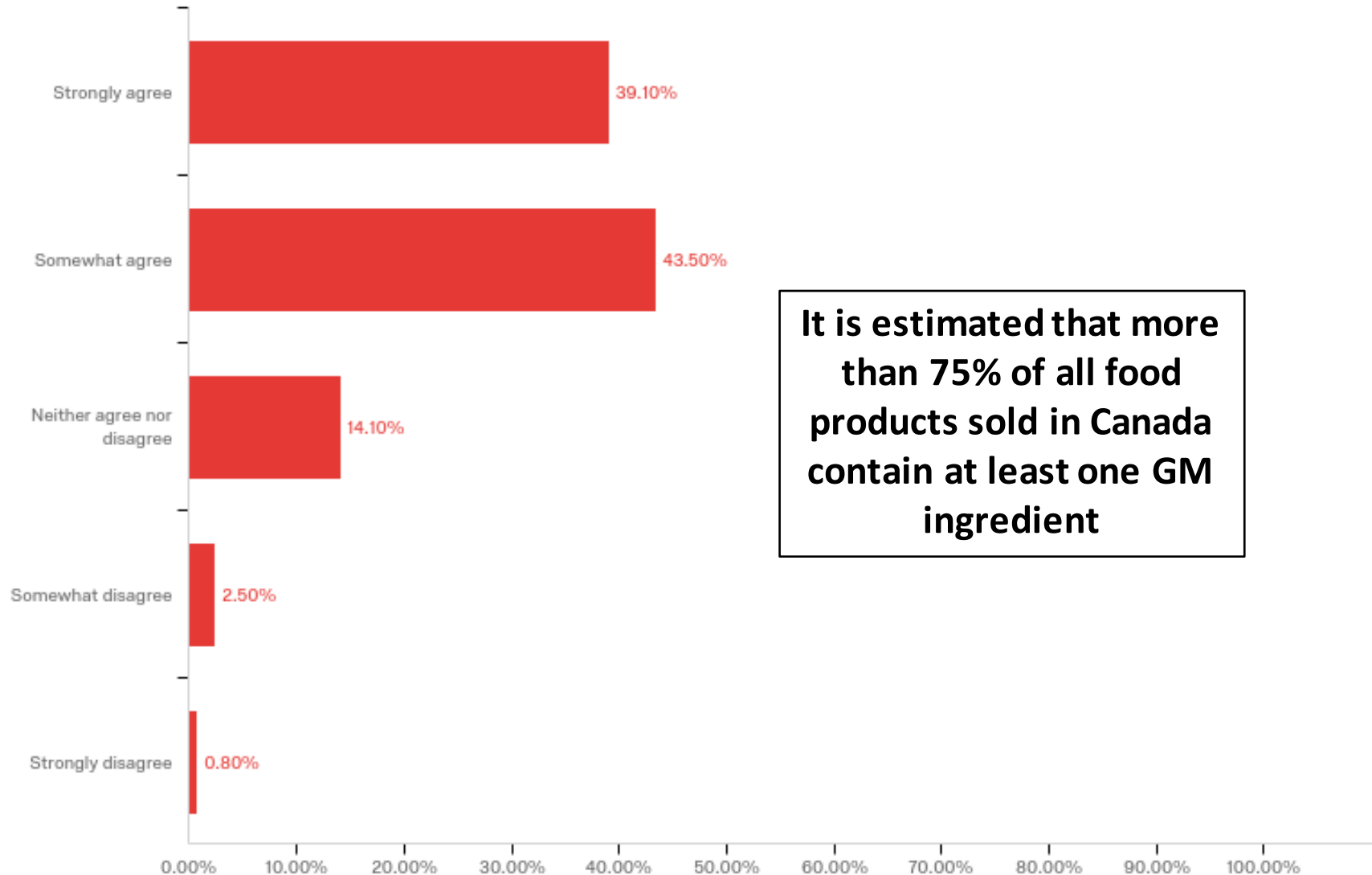


Currently, enough testing is done on genetically modified foods to ensure their safety before they reach consumers in Canada.



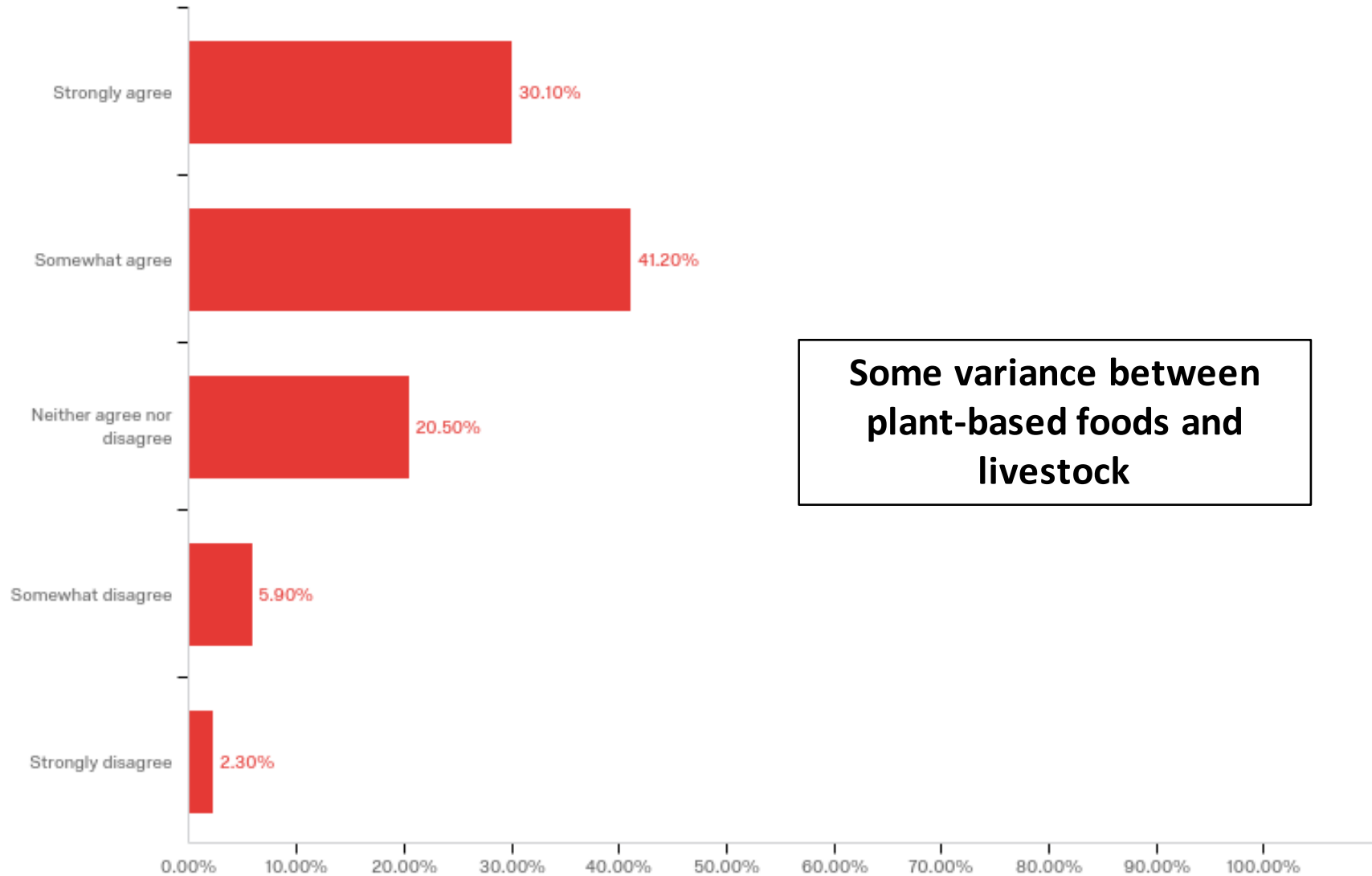
Though the majority of Canadians believe testing of GM foods is thorough, they gave **mixed results** when asked about testing to protect the **safety** for **consumers**.

Genetically modified (or engineered) plant-based foods (i.e. fruits, vegetables, grains) are currently sold in Canada.

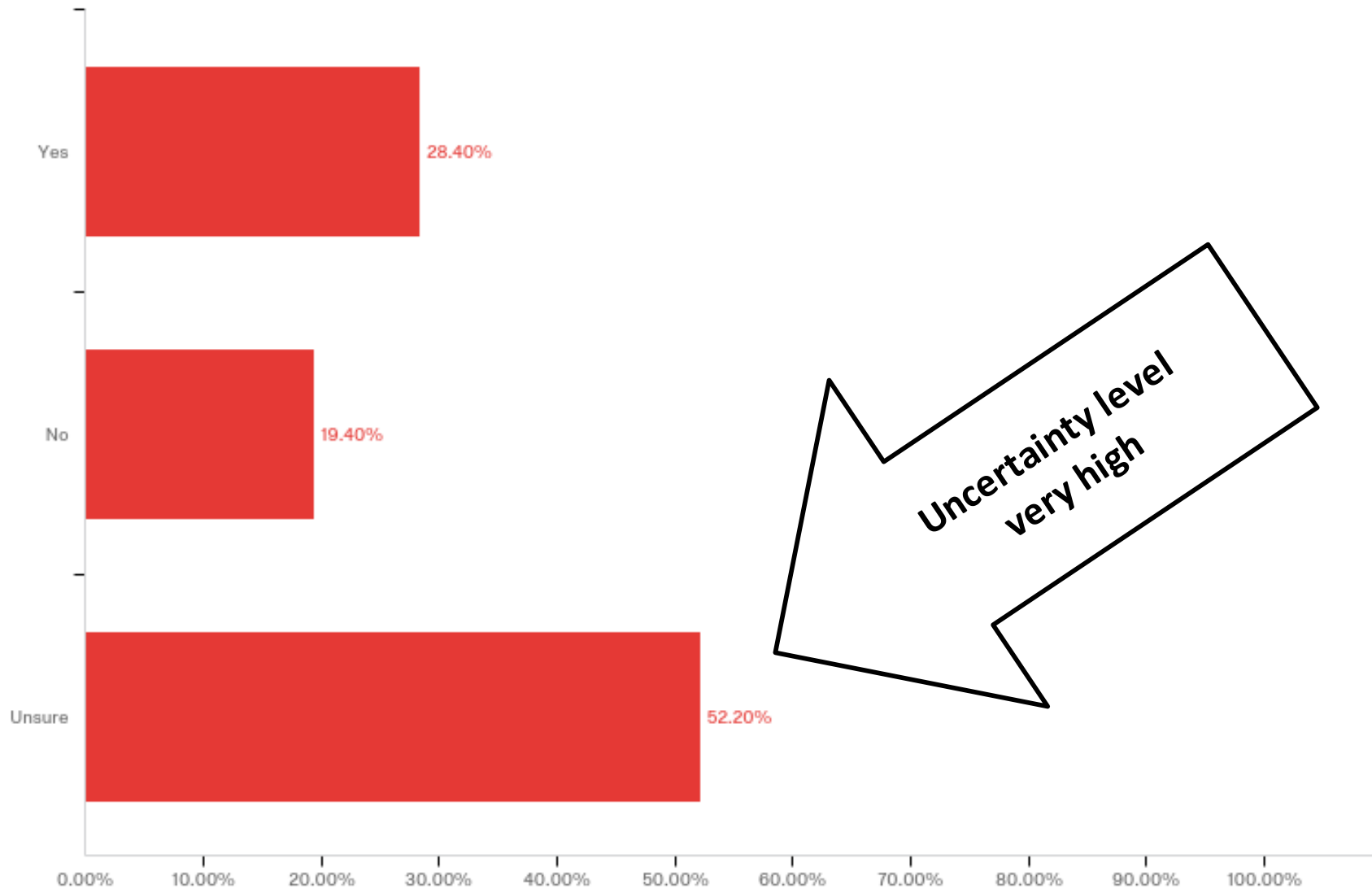


**It is estimated that more than 75% of all food products sold in Canada contain at least one GM ingredient**

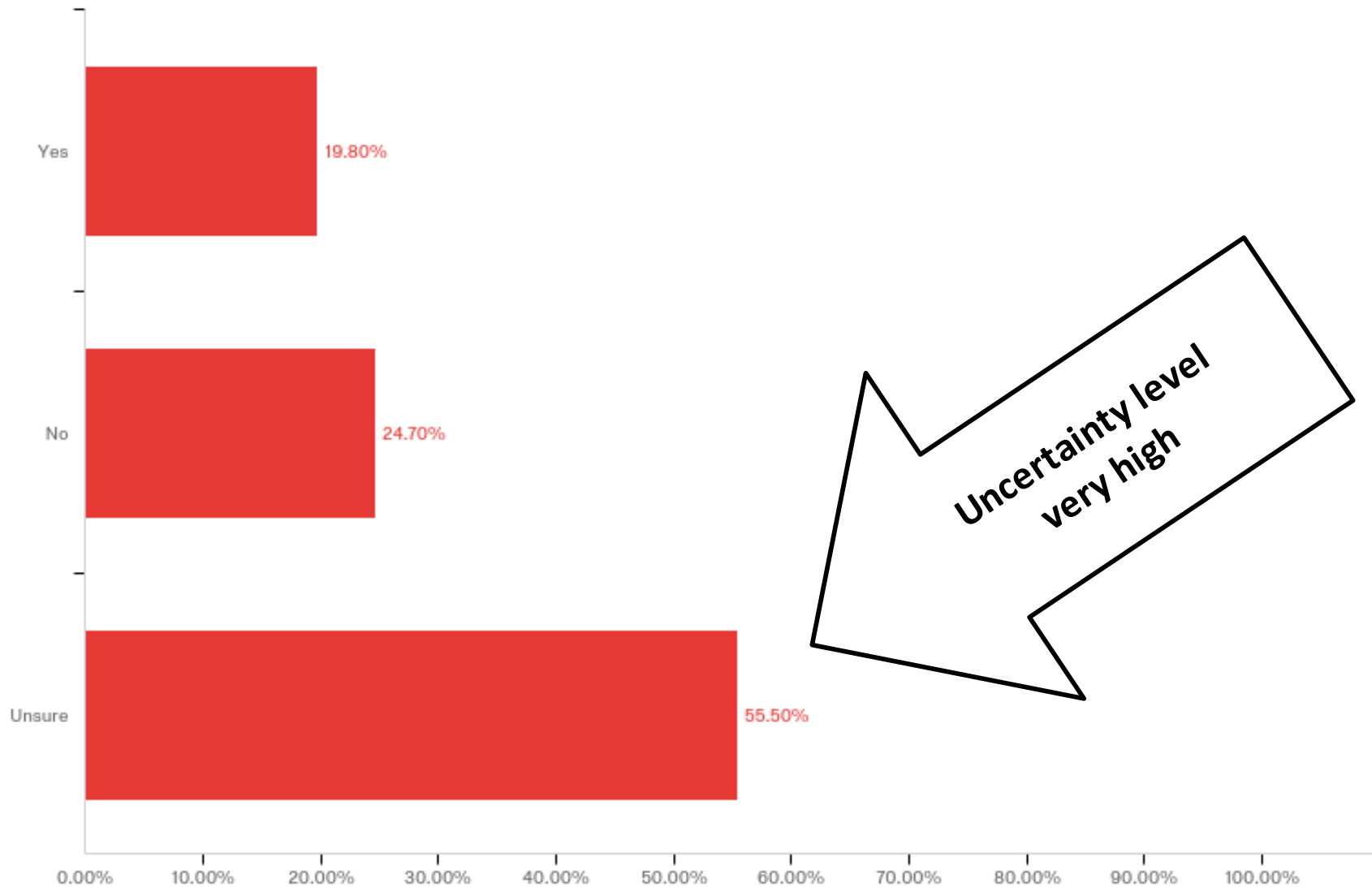
Genetically modified (or engineered) animal-based foods (i.e poultry, seafood, beef) are currently sold in Canada.



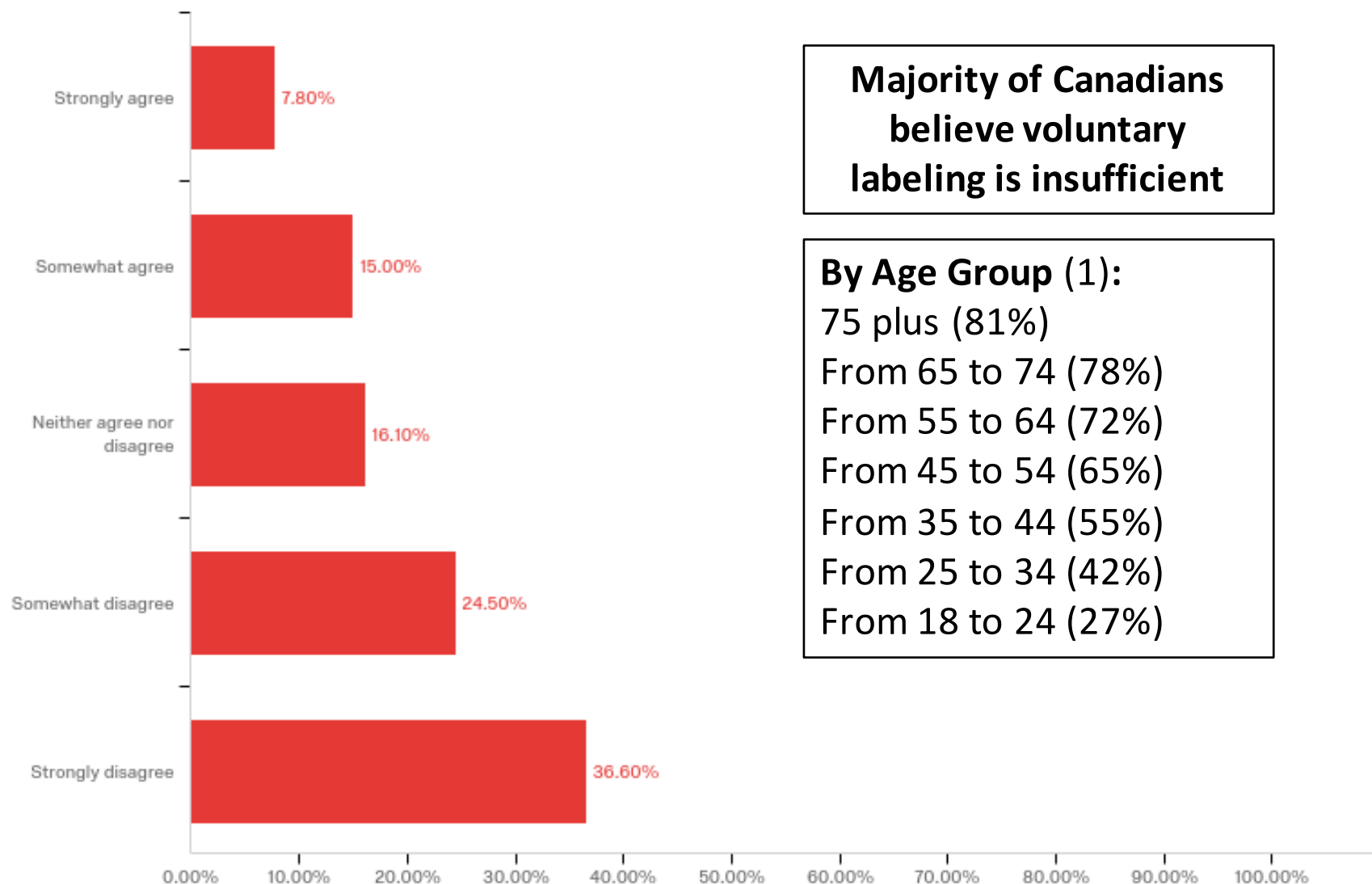
I have purchased genetically modified (or engineered) plant-based food.



I have purchased genetically modified (or engineered) animal-based food.



# Voluntary labelling of genetically modified foods/ingredients is sufficient.

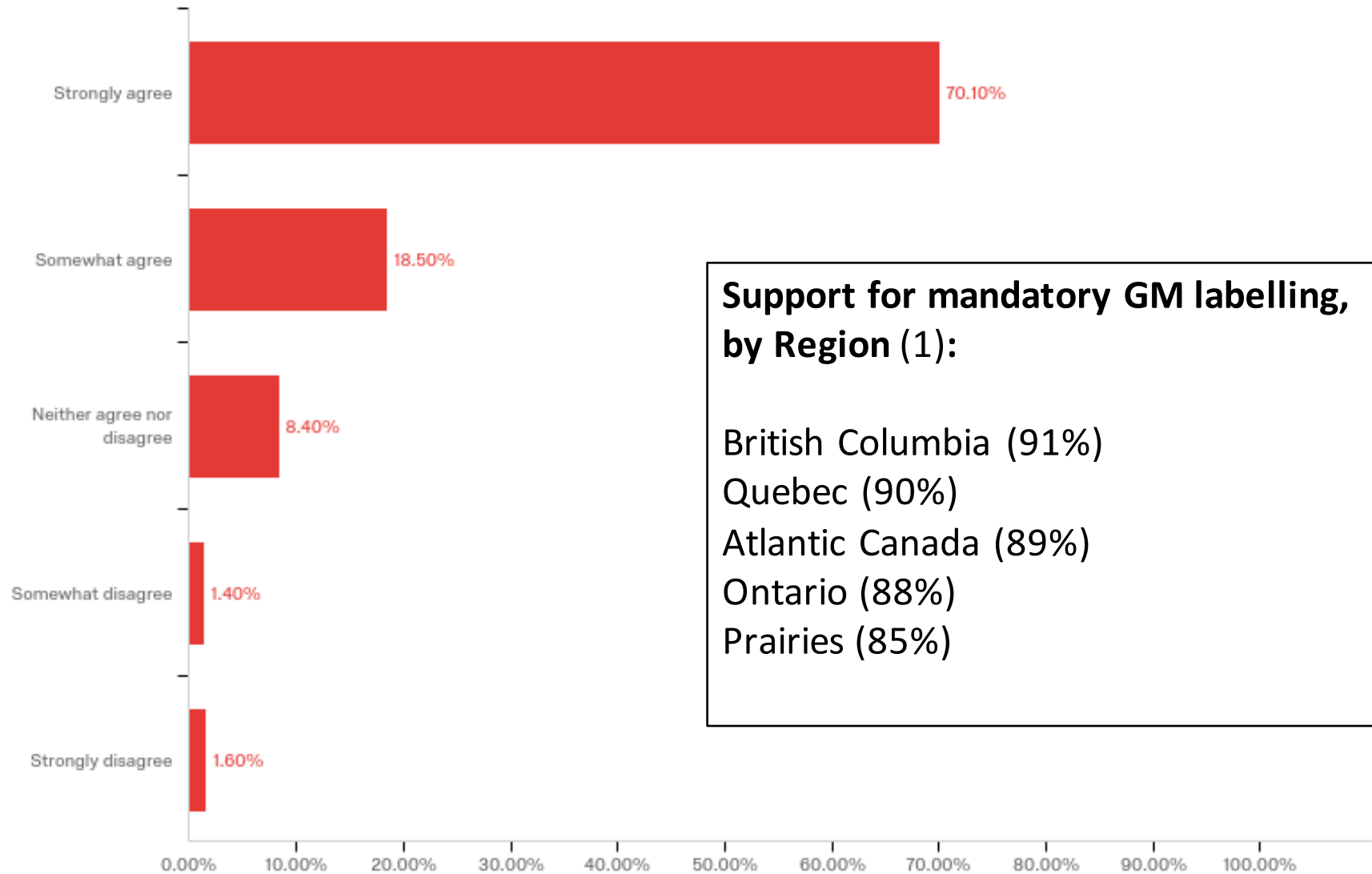


**Majority of Canadians believe voluntary labeling is insufficient**

**By Age Group (1):**  
75 plus (81%)  
From 65 to 74 (78%)  
From 55 to 64 (72%)  
From 45 to 54 (65%)  
From 35 to 44 (55%)  
From 25 to 34 (42%)  
From 18 to 24 (27%)

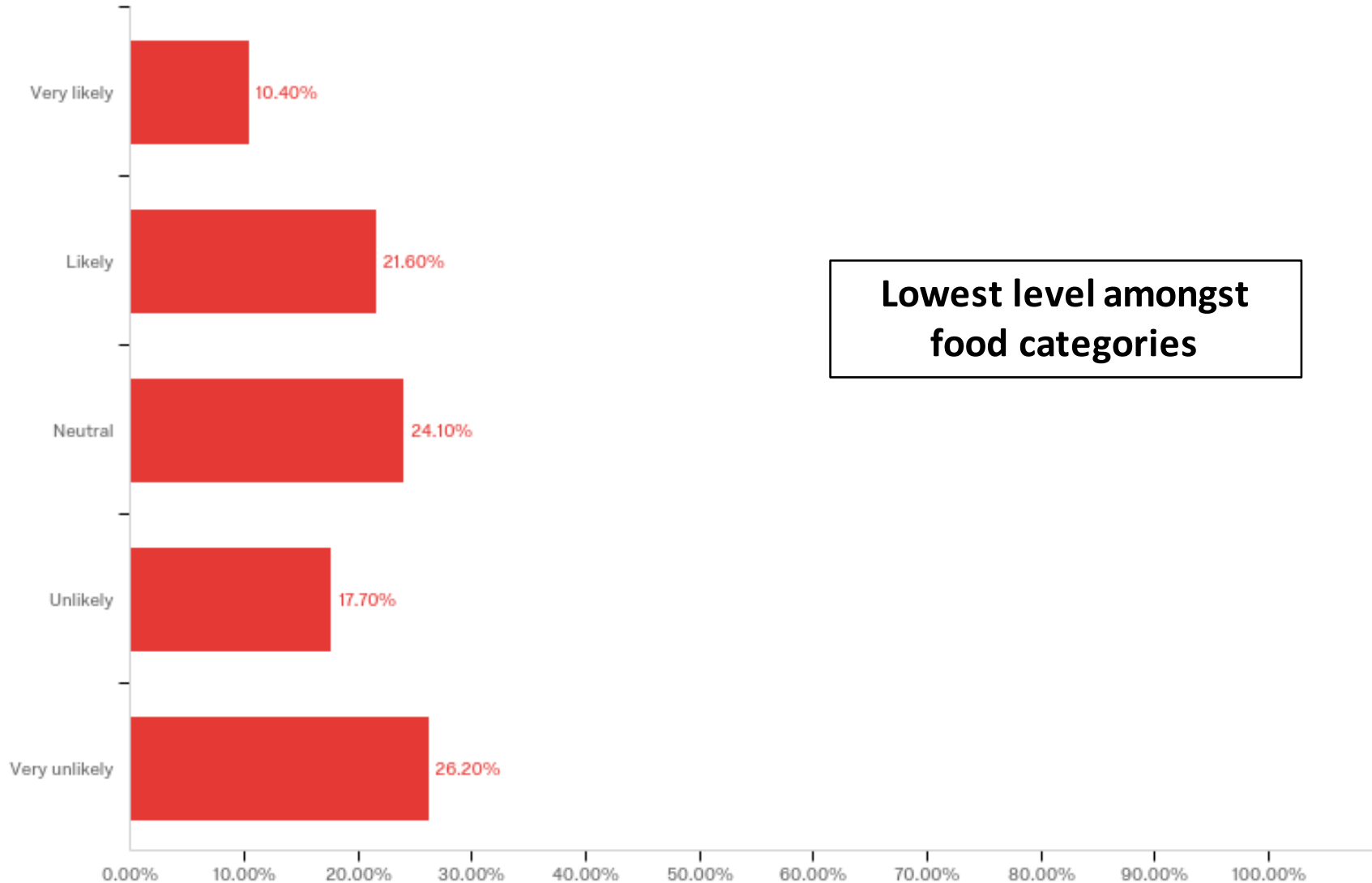
(1) Margin of error may vary, both "Somewhat Disagree" and "Strongly Disagree" combined

All genetically modified foods/ingredients should be clearly labelled as such on food packages.



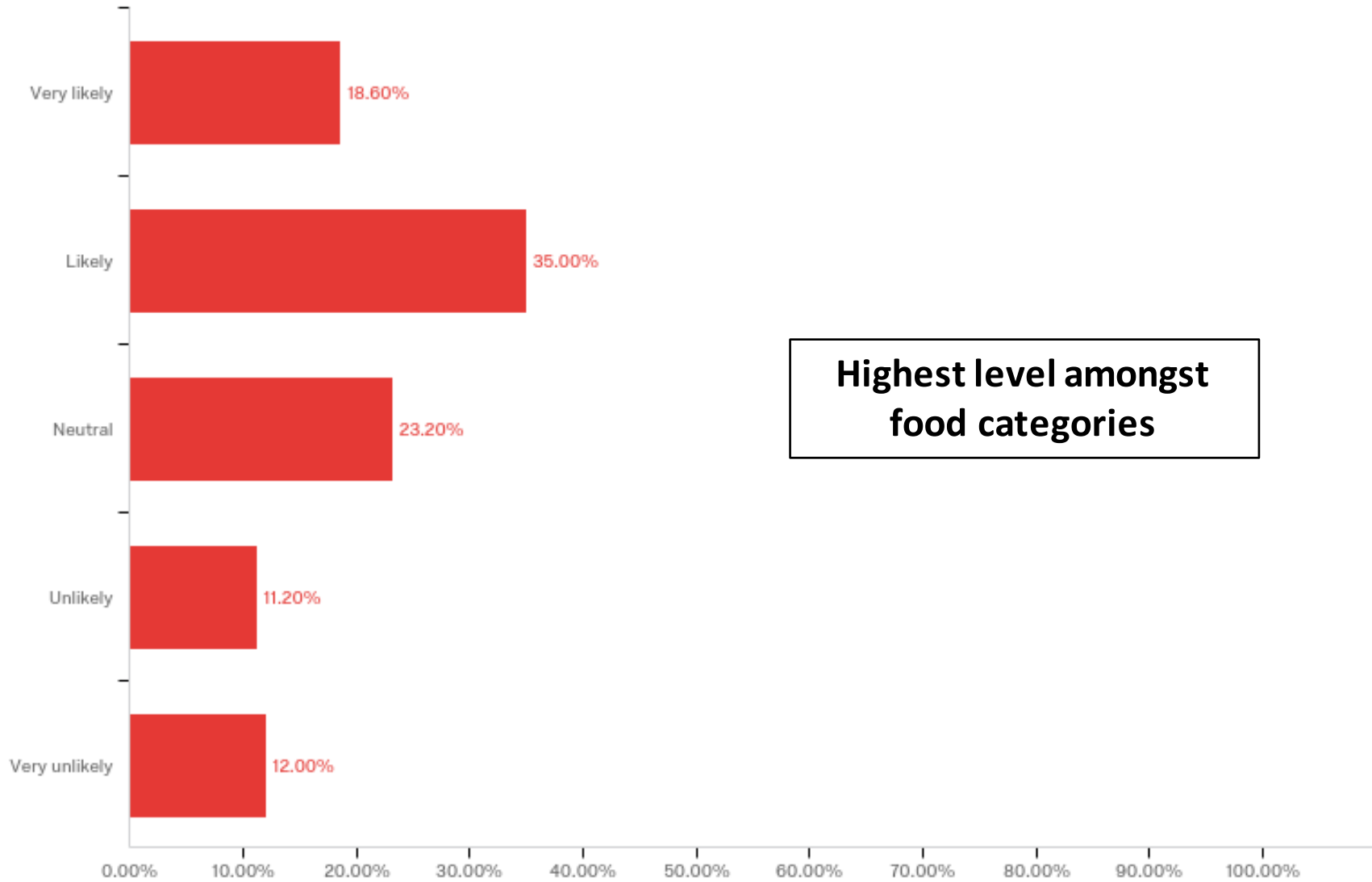
(1) Margin of error may vary, both "Somewhat Agree" and "Strongly Agree" combined

If available, and deemed by Health Canada as safe, how likely are you to purchase genetically modified foods from the following categories: Fish and Seafood?



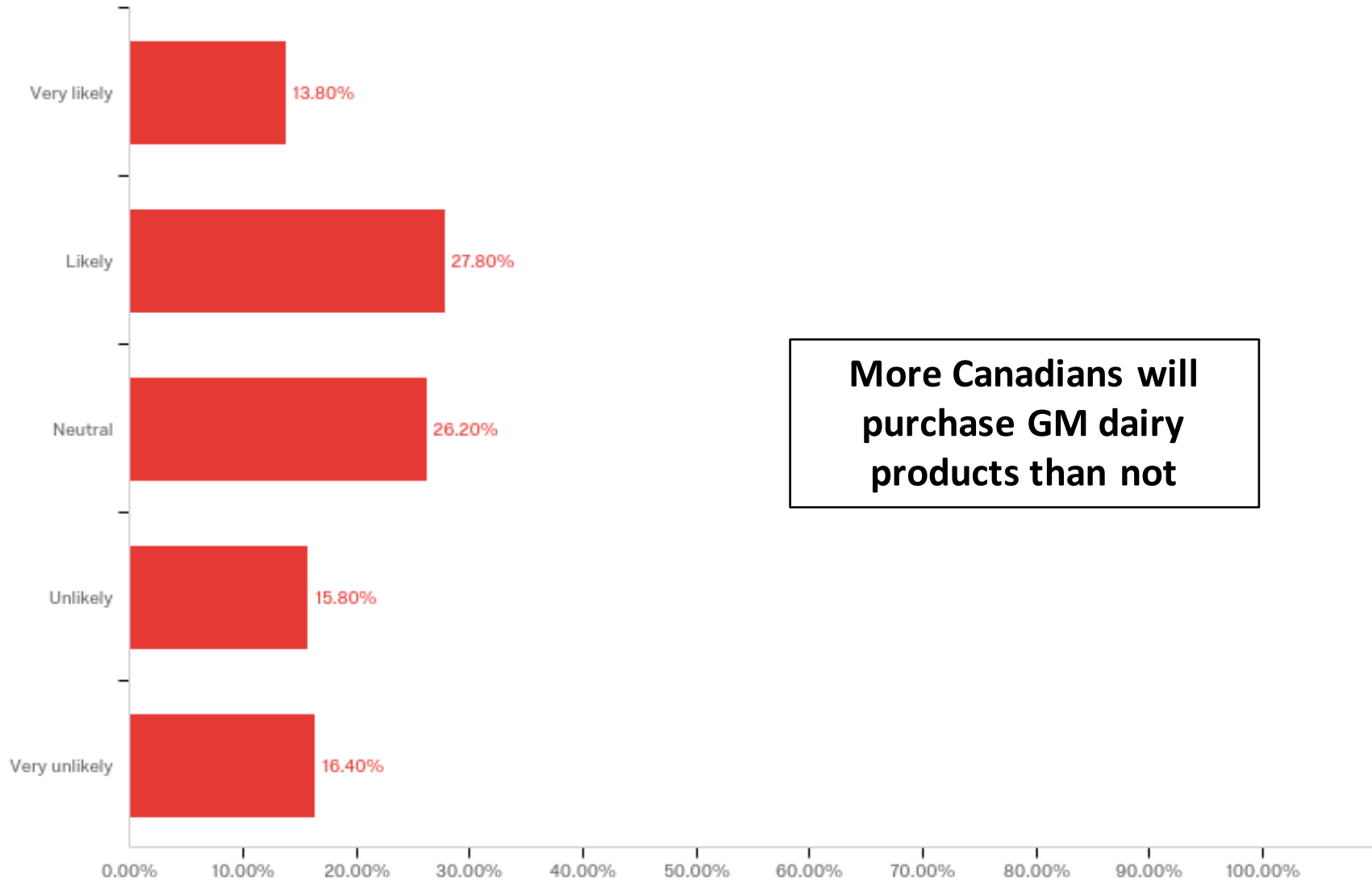


# Fruits and Vegetables?



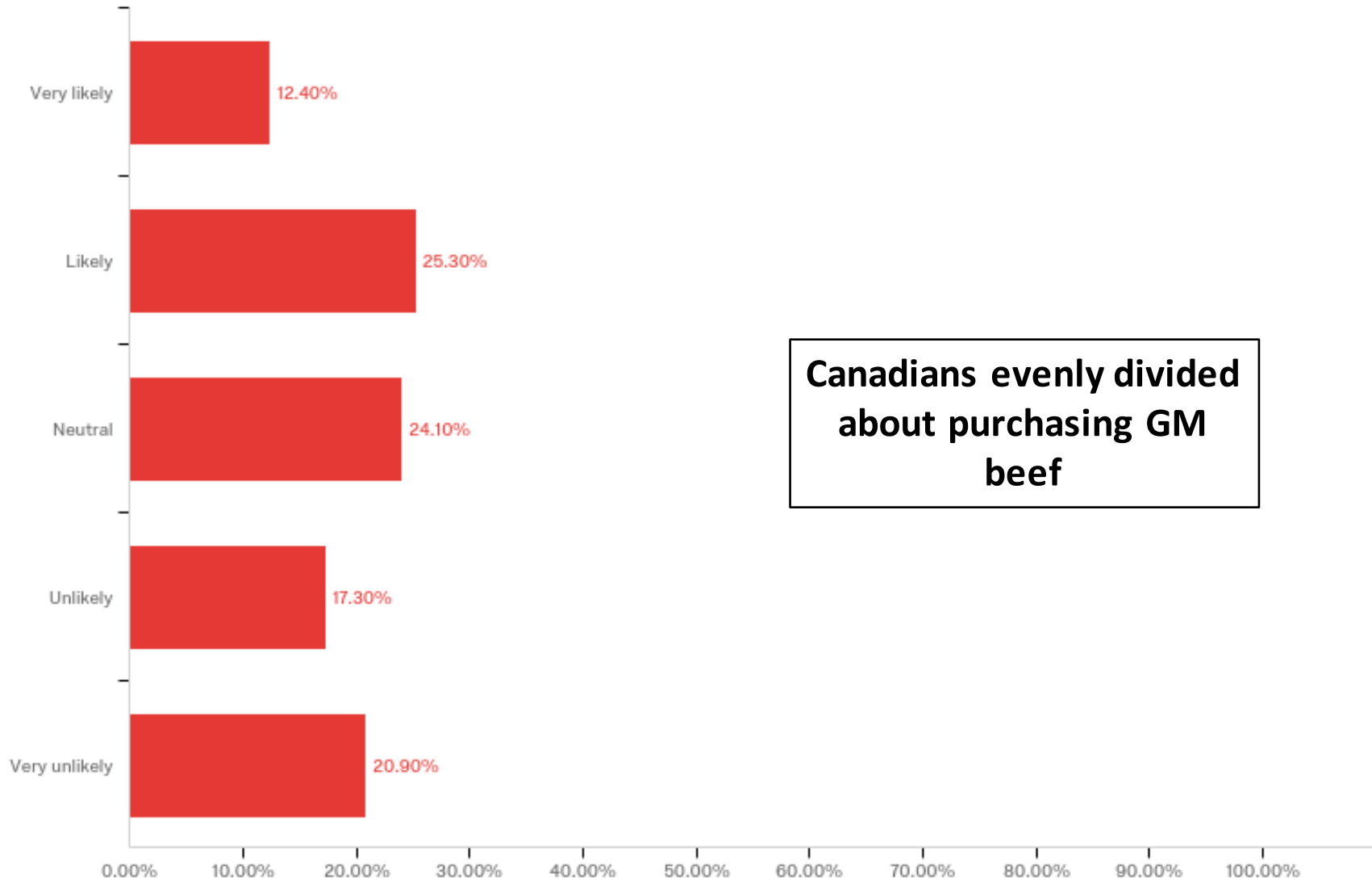
**Highest level amongst food categories**

# Dairy?



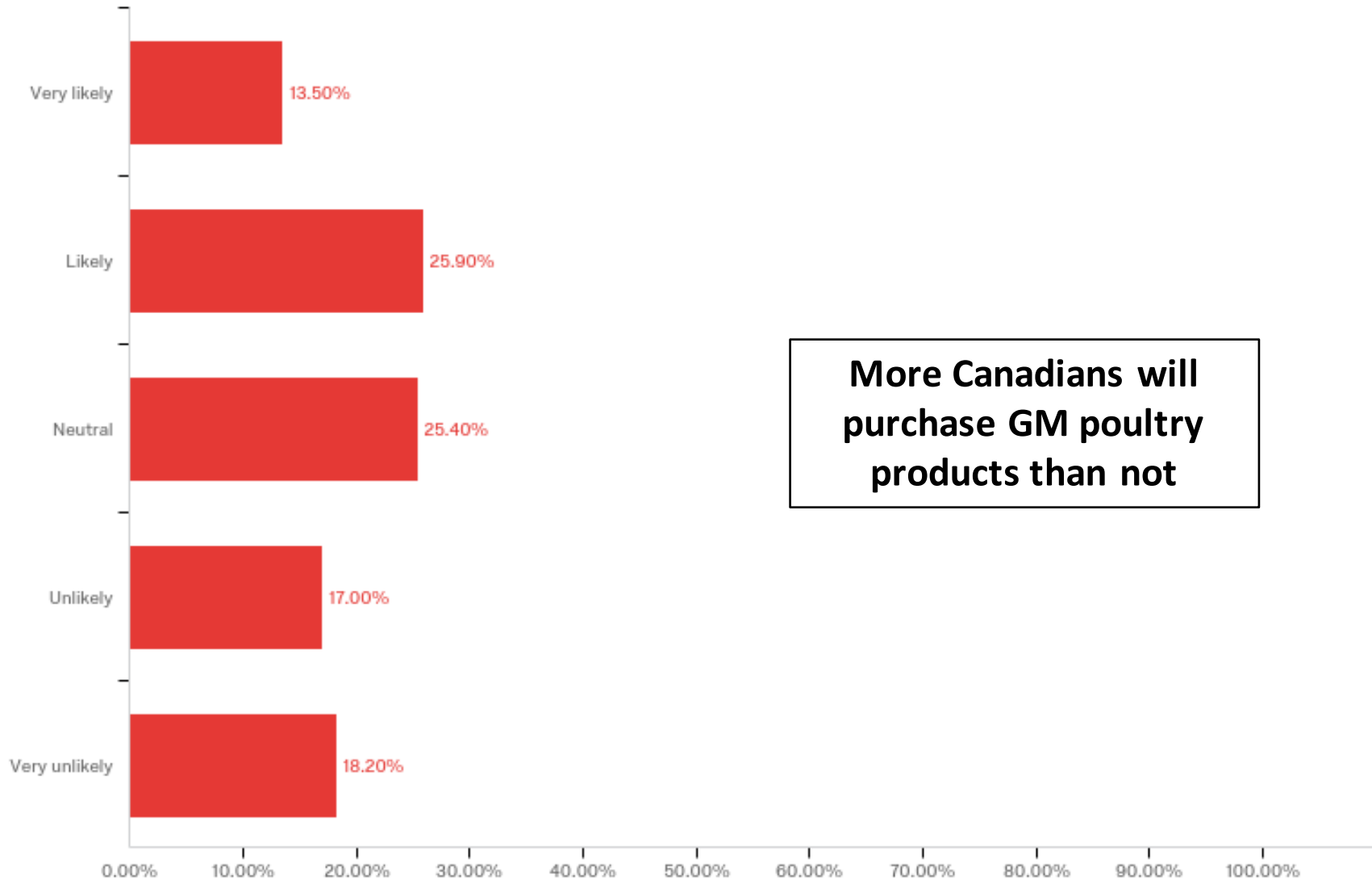
**More Canadians will purchase GM dairy products than not**

# Beef?



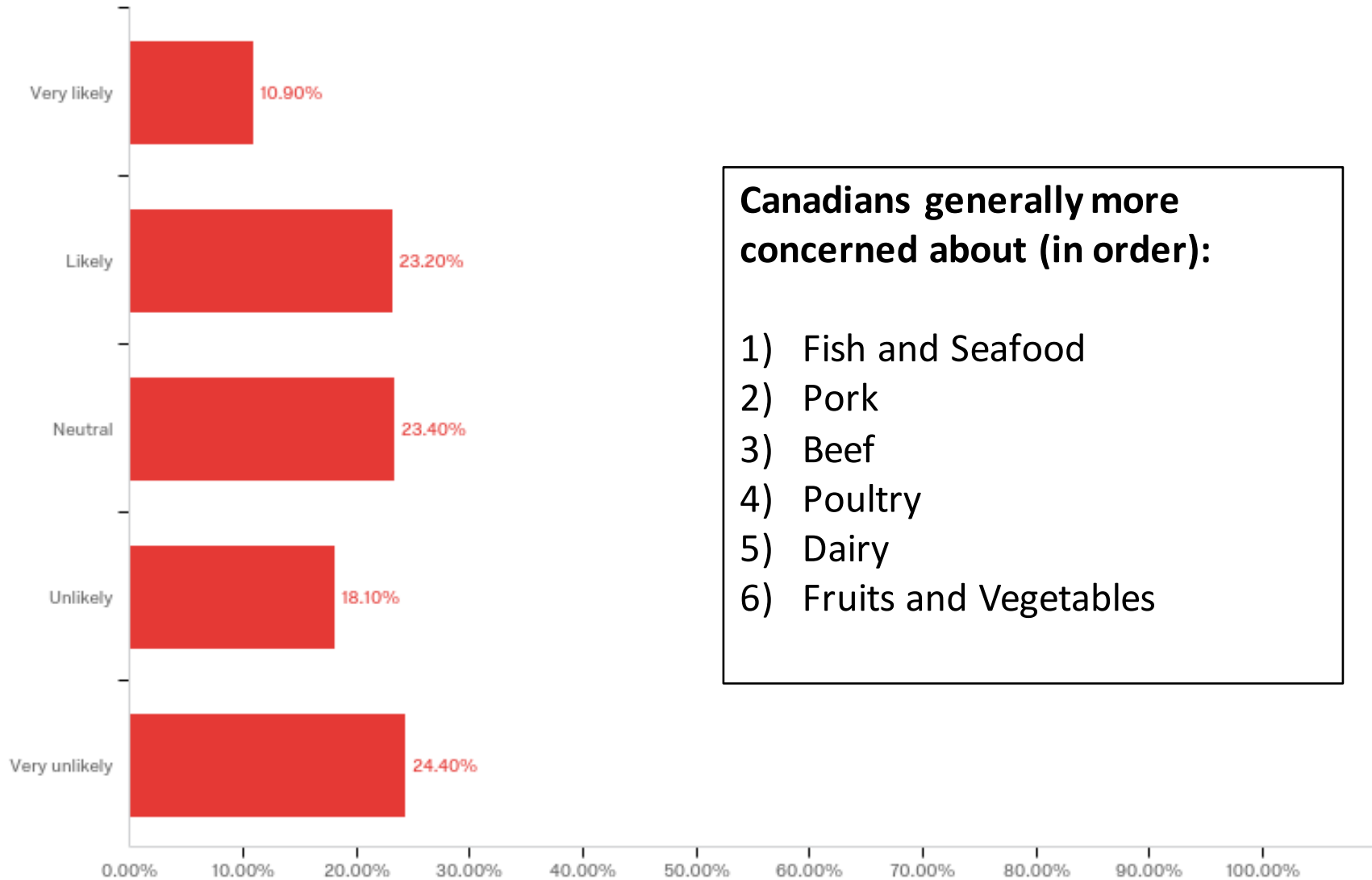
**Canadians evenly divided about purchasing GM beef**

# Poultry?



**More Canadians will purchase GM poultry products than not**

# Pork?

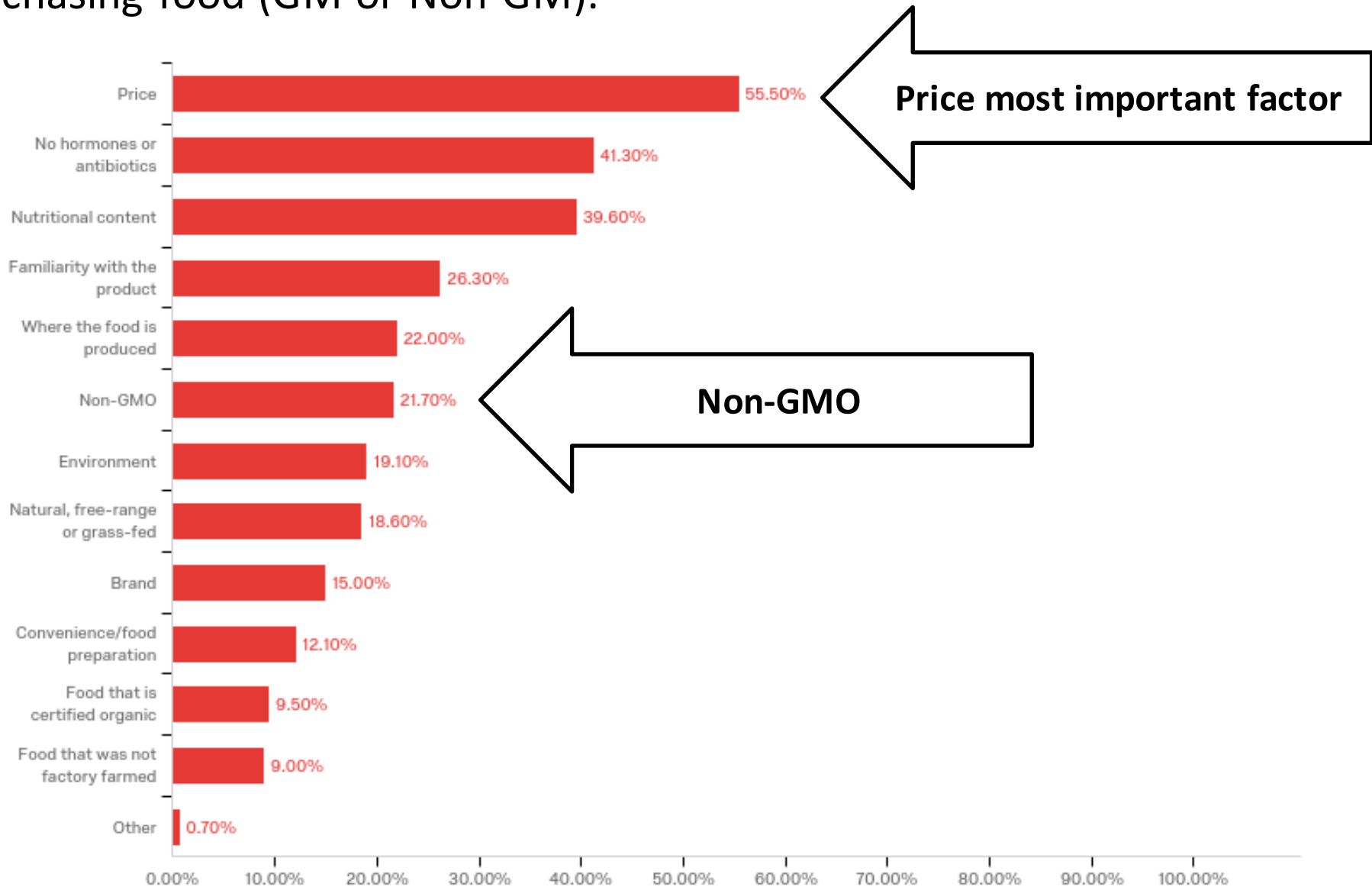


**Canadians generally more concerned about (in order):**

- 1) Fish and Seafood
- 2) Pork
- 3) Beef
- 4) Poultry
- 5) Dairy
- 6) Fruits and Vegetables

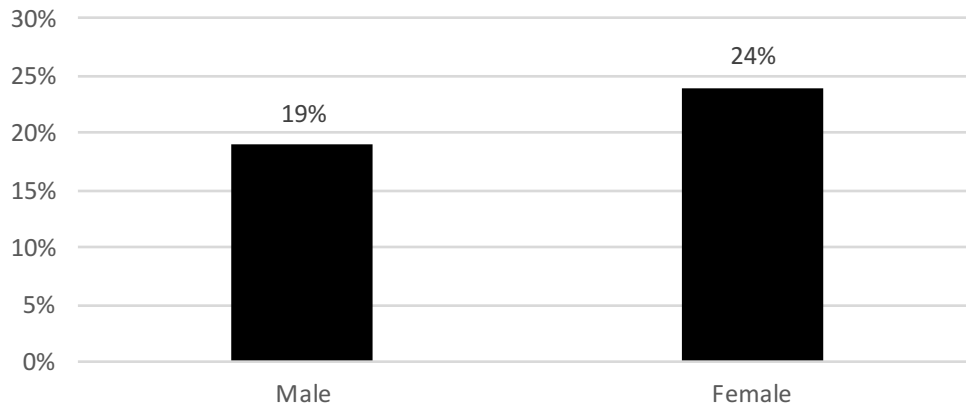
(1) Both “Unlikely” and “Very Unlikely” combined

Consumers consider many factors when shopping for food. From the list below, please choose up to 3 considerations that are important to you when purchasing food (GM or Non-GM).

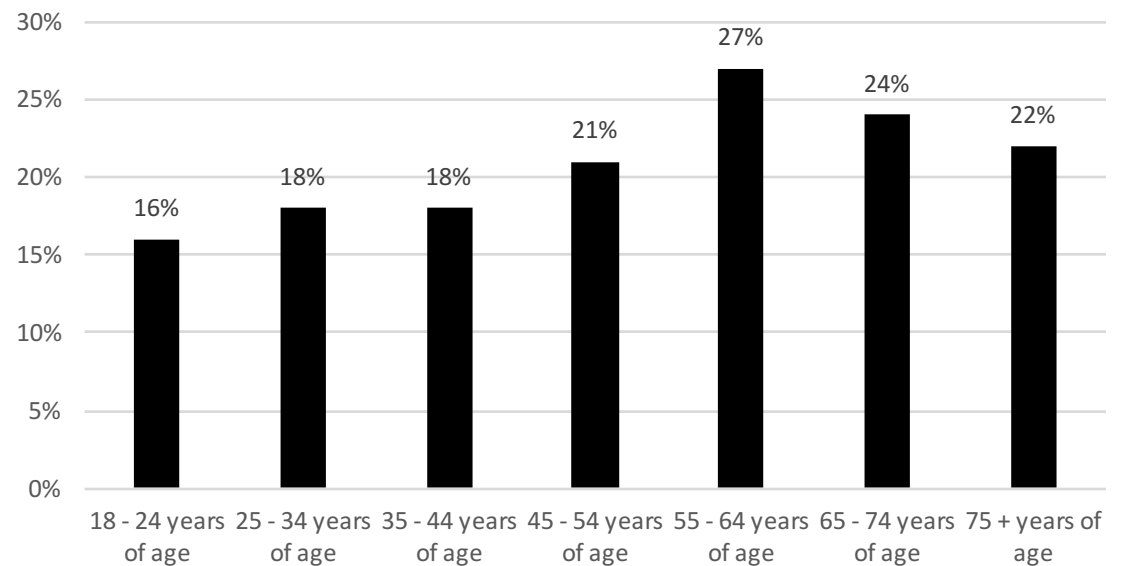


# Demographics: Non-GMO has a decision factor

**Actively Looking for Non-GMO Food Products  
By Gender**  
(Dalhousie University, 2018)



**Actively Looking for Non-GMO Food Products  
By Age Group**  
(Dalhousie University, 2018)



(1) More demographic results available on demand

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