



Undeclared Gluten and Sesame in Salty Snacks and Crackers - April 1, 2016 to March 31, 2017

Food allergen - Targeted surveys



Summary

Targeted surveys provide information on potential food hazards and enhance the Canadian Food Inspection Agency's (CFIA's) routine monitoring programs. These surveys provide evidence regarding the safety of the food supply, identify potential emerging hazards, and contribute new information and data to food categories where it may be limited or non-existent. We often use them to focus surveillance on potential areas of higher risk. Surveys can also help to identify trends and provide information about how industry complies with Canadian regulations.

Food allergies can affect people of all ages but are particularly common in children. Food allergens can represent a serious or life threatening health risk for allergic individuals. Additionally, although it is not considered an allergen, undeclared gluten may contribute to chronic health issues for those individuals with celiac disease or gluten sensitivity. Allergens and gluten can be found in food due to their presence in the raw ingredients or they can be accidentally introduced along the food production chain due to cross contamination. Regardless of the source of the allergens, industry must ensure that the food produced is safe for human consumption, either by complying with specific Canadian regulations where applicable or by keeping the levels as low as reasonably possible.

The main objective of this survey was to obtain baseline information regarding the presence and levels of undeclared gluten and sesame in salty snacks and crackers. 500 samples were tested and 0.6% (3) of the samples were found to contain undeclared gluten.

None of the positive results were forwarded to the CFIA's Office of Food Safety and Recall (OFSR) for follow-up, as all of these positive samples contained levels of gluten below 20 ppm, meeting the criteria for gluten-free food.

What are targeted surveys

Targeted surveys are used by the CFIA to focus its surveillance activities on areas of higher health risk. The information gained from these surveys provides support for the allocation and prioritization of the Agency's activities to areas of greater concern. Targeted surveys are a valuable tool for generating information on certain hazards in foods, identifying and characterizing new and emerging hazards, informing trend analysis, prompting and refining health risk assessments, highlighting potential contamination issues, as well as assessing and promoting compliance with Canadian regulations.

Food safety is a shared responsibility. The agency works with federal, provincial, territorial and municipal governments and provides regulatory oversight of the food industry to promote safe handling of foods throughout the food production chain. The food industry and retail sectors in Canada are responsible for the food they produce and sell, while individual consumers are responsible for the safe handling of the food they have in their possession.

Why did we conduct this survey

Approximately 7% of Canadians have self-reported as having at least 1 food allergy, but the actual number of medically diagnosed food allergies is expected to be slightly lower¹. It is believed that the rate of food allergies is increasing, particularly among children. Food allergies are estimated to affect up to 5% of adults and up to 8% of children in developed countries². Food allergens are food proteins that can cause a reaction of the body's immune system, and can represent a serious or life threatening health risk for allergic individuals or contribute to chronic health issues for those with pre-existing health conditions like celiac disease. Approximately 1% of the total population are affected with celiac disease³. Celiac disease is a chronic reaction where the body reacts to a component of gluten which can damage or destroy certain intestinal cells.

The priority food allergens are the 10 most common food components associated with severe allergic or allergy-like reactions in Canada. These allergens consist of peanuts, tree nuts, sesame, seafood (fish, shellfish and crustaceans), eggs, milk, soy, mustard, sulphites, and wheat⁴. Gluten, while not a true allergen, is a family of proteins found in certain grains like wheat, rye, barley, kamut, and spelt and is included in this list. Gluten can cause digestive problems and other issues for people with certain health conditions such as celiac disease and gluten sensitivity. This report presents the results of a survey conducted to look at the levels of undeclared gluten and sesame in salty snacks and crackers.

Undeclared allergens can be found in foods due to their presence in the raw ingredients, or can be accidentally introduced along the food production chain through cross contamination. Regardless of the source of the allergens, industry must ensure that the food they produce is safe for human consumption. This can be achieved by complying with specific Canadian regulations where applicable, or by keeping the levels as low as reasonably possible.

Food allergens can represent a serious or life threatening health risk for allergic individuals or contribute to chronic health issues for those with pre-existing health conditions like celiac disease. Reactions to food allergens depend on the individual's sensitivity and can range from mild to severe or life threatening. This makes proper identification and labeling of allergens in food by the manufacturer essential. The following types of products were sampled for this survey: chips, crackers, popcorns and rice products. All products were tested "as sold," meaning

that they were not prepared as per manufacturer’s instructions or as they would typically be consumed.

This was the first survey conducted by the agency for undeclared sesame and gluten in salty snacks and crackers. The main objective of this survey was to obtain baseline information regarding the presence and levels of undeclared sesame and gluten in salty snacks and crackers.

What did we sample

All products were sampled from April 2016 to March 2017. Samples were collected from local and regional grocery stores located in 6 major cities across Canada. These cities encompassed 4 geographical areas: Atlantic (Halifax), Quebec (Montreal), Ontario (Toronto, Ottawa) and the West (Vancouver, Calgary). The number of samples collected from these cities was in proportion to the relative population of the respective areas.

The following products were not included in the survey:

- products with any of the following allergens in the list of ingredients: sesame, wheat, barley, oats, rye, triticale, kamut, spelt, or gluten
- products with no list of ingredients for which it is required
- products with a precautionary statement for all priority allergens
- potato chips (all flavours)
- un-popped popcorn
- non-prepackaged products
- products past the “use by” or “best before” date

Table 1. Distribution of samples based on product type and origin

Product type	Number of domestic samples	Number of imported samples	Number of samples with unspecified ^a origin	Number of total samples
Chips	42	154	54	250
Crackers	5	134	11	150
Popcorn	4	14	32	50
Rice products	1	49	0	50
Total	52	351	97	500

^aUnspecified refers to those samples for which a country of origin could not be determined from the product label or available sample information.

How were samples analyzed and assessed

Samples were analyzed by an ISO/IEC 17025 accredited food testing laboratory under contract with the Government of Canada. The samples were tested as sold, meaning that the product was tested as-is and not as prepared according to package instructions.

In Canada, food allergens and gluten must be declared in the list of ingredient if they are present in the prepackaged product in order to comply with the requirements of *Food and Drug Regulations* Section [B.01.010.1](#). A prepackaged product will be deemed non-compliant if any level of undeclared allergens and gluten is detected.

Health Canada considers gluten-free foods, prepared under good manufacturing practices, which contain levels of gluten not exceeding 20 parts per million (ppm) (due to cross contamination) meet the intent of the *Food and Drug Regulations* [Section B.24.018](#) for a gluten-free claim.

What were the survey results

Over 99% of salty snacks and crackers sampled in this survey did not contain any detectable levels of undeclared sesame and gluten. Only 3 samples were positive for gluten. 2 chip products (garden veggie chips and veggie crinkle chips) were found to contain 19 ppm and 10 ppm gluten respectively, while 7 ppm gluten was found in 1 cracker product (onion garlic crackers). All of these positive samples contained levels of gluten not exceeding 20 ppm thereby meeting Health Canada's definition of a gluten-free food.

What do the survey results mean

Of the 500 samples tested, over 99 % did not contain any detectable levels of undeclared allergens. Only 3 samples were positive for gluten.

The extent of the follow-up actions taken by CFIA is based on the level of contamination and the resulting health concern as determined by a health risk assessment. Appropriate follow-up actions can include additional sample testing, facility inspection and product recall. The health risk assessment is based on exposure to the allergens and gluten through consumption. The exposure is calculated by using the typical serving sizes for each food. Assessment based on serving size means not all detectable levels of undeclared allergens and gluten in food will cause a reaction in an allergic individual.

Gluten can be present in a food due to cross-contamination during manufacturing or because of the adventitious presence of gluten containing grains in other bulk grain products. The best currently available scientific evidence indicates that levels of gluten below 20 ppm in gluten-free foods would be protective of the health of the vast majority of people with celiac disease⁵. As a result, only positive results higher than 20 ppm (per serving) are typically forwarded to the

CFIA's OFSR for follow-up. None of the products sampled in this survey were found to present a health risk. No published literature could be found on a similar topic for comparison of results.

This survey generated new information on the background level of undeclared gluten and sesame in salty snacks and crackers collected from 6 cities across Canada. Information gathered in this survey, in conjunction with other data including the Canadian Total Diet Study and Statistics Canada's Canadian Health Measures Survey food consumption data, are critical in assessing the health risk that our food supply poses to Canadian consumers. The results of CFIA's surveillance activities are also used to inform the Canadian public and stakeholders by raising consumer awareness and to help build public confidence in their food supply by removing non-compliant products.

References

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3. [Celiac Disease Foundation](#); (2018). United States. Celiac Disease Foundation.
4. [Health Canada](#). (2018, May 14). Common food allergens.
5. [Codex Alimentarius Standard for Foods for Special Dietary Use for Persons Intolerant to Gluten - Codex Stan 118-1979](#). (2008) United States. Food and Agriculture Organization of United Nations & World Health Organization.