



# Undeclared Egg, Gluten, and Soy in Candy – May 1, 2015 to March 31, 2016

## 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. They are often used by the CFIA 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 follow-up information regarding the presence and levels of undeclared egg, gluten, and soy in all types of candy such as hard candy, soft candy, excluding chocolate and chewing gum. The previous survey was conducted in 2014 to 2015 to obtain baseline information regarding the presence and levels of undeclared gluten in candy. This follow-up survey was designed to expand upon the previous survey for undeclared gluten in candy. The rationale was a belief in the existence of a higher potential for cross-contamination during the manufacturing process for these particular types of products. 199 candy samples were tested in this survey. Samples included a variety of domestic and imported hard (mints, lollipops, etc.) and soft candies (jelly beans, gummies, etc.). There were no confirmed positive results obtained for undeclared egg, gluten, or soy in this survey. Limited comparison between this and the previous survey indicates similar, low instances of undeclared gluten present in the types of candy sampled.

Positive results obtained in targeted surveys are referred to the CFIA's Office of Food Safety and Recall (OFSR) to determine if the levels found would pose a health concern to allergic individuals. The extent of the follow-up actions taken by CFIA is based on the seriousness of the contamination and the resulting health concern as determined by a health risk assessment. None of the products tested in this survey were found to represent a health risk to allergic consumers.

## 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. Originally started as a project under the Food Safety Action Plan (FSAP), targeted surveys have been embedded in the CFIA's regular surveillance activities since 2013. 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 in Canada. The CFIA 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 also 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

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. Celiac disease is a chronic reaction where the body reacts to a component of gluten which can damage or destroy certain intestinal cells.

Reactions to food allergens depend on the individual's sensitivity and can range from mild to severe or life threatening. Interestingly, the degree of reaction in an individual can vary from day to day. This makes proper identification and labeling of allergens in food by the manufacturer essential. Approximately 7% of Canadians have self-reported as having at least 1 food allergy, but the actual number of medically confirmed food allergies is expected to be slightly lower<sup>1</sup>. It is believed that the rate of food allergies is increasing, particularly among children. Food allergies are currently estimated to affect up to 5% of adults and up to 8% of children in developed countries<sup>2</sup>. Approximately 1% of the total population are affected with celiac disease<sup>3</sup>.

The priority food allergens are the 10 most common food components associated with severe allergic or allergy-like reactions in Canada. Currently, these allergens consist of peanuts, tree nuts, sesame, seafood (fish, shellfish and crustaceans), eggs, milk, soy, mustard, sulphites, and wheat<sup>4</sup>. 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.

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.

The original survey was conducted in 2014 to 2015 fiscal year to obtain baseline information regarding the presence and levels of undeclared gluten in candy (Undeclared Gluten in Candy 2014 to 2015). The current, follow-up survey was designed to expand upon the previous study as there was a belief in the existence of a higher potential for cross-contamination during the manufacturing process for these particular types of products. This report presents the results of this follow-up survey conducted to look at the levels of undeclared egg, gluten, and soy in hard and soft candy, excluding chocolate and chewing gum. All products in both surveys were tested “as sold,” meaning that they were not prepared as per manufacturer’s instructions or as they would typically be consumed.

## What did we sample

The main objective of this survey was to obtain additional baseline information regarding the presence and levels of undeclared egg, gluten, and soy in candy. Candy was divided into 2 categories, hard and soft. These categories consisted of, but were not limited to, products such as gummies, fruit chews, jelly beans, drops and mints.

In total, 199 candy samples were collected between May 2015 and March 2016 from national retail chains and local/regional grocery stores located in 6 major cities across Canada. These cities represented the 4 CFIA operational areas and included Atlantic Canada (Halifax), Quebec (Montreal), Ontario (Toronto, Ottawa), and Western Canada (Vancouver, Calgary). The number of samples collected from these cities was in proportion to the relative population of the respective areas.

Foods sampled in this survey included any prepackaged hard or soft candy product excluding chocolate and chewing gum.

The following products were not part of the survey:

- products with all of the following allergens in the list of ingredients (1 of or more in the list of ingredients was fine): eggs, gluten, or soy
- products with a ‘May Contain’ or similar precautionary statement for the specific allergens
- products with no list of ingredients were also excluded from the survey

**Table 1: Distribution of domestic, imported, and unknown origin candy samples collected for this survey.**

<b>Sample type</b>	<b>Domestic</b>	<b>Import</b>	<b>Unspecified origin*</b>	<b>Total</b>
<b>Soft candy</b>	3	47	50	100
<b>Hard candy</b>	11	42	46	99
<b>Total</b>	14	89	96	199

\* Unspecified 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 17025 accredited food testing laboratory under contract with the Government of Canada. The samples were tested as sold, that is the product was tested as is and not as prepared according to package instructions. All positive samples are assessed against [Section B.01.010](#) of the Food and Drug Regulations.

## **What were the survey results**

199 samples were collected and tested with this survey. There were no confirmed positive results for undeclared egg, gluten, or soy obtained in any sample tested.

## **What do the survey results mean**

A similar survey was conducted in 2014 to 2015 fiscal year to obtain baseline information regarding the presence and levels of gluten in candy. The previous survey found 4 positive gluten samples out of 600 products tested. There were no confirmed positive results found in this survey. Comparison between the 2 surveys indicates a similar, low instance of undeclared gluten in candy. Based on the information generated by both surveys CFIA believes there is likely a lower probability of finding undeclared egg, gluten and soy in these types of products. No follow-up surveys are planned for these products.

The CFIA follows up on all positive result detected in its targeted surveys. The extent of the follow-up actions taken by CFIA is based on the seriousness of the contamination and the resulting health concern as determined by a health risk assessment. Not all detectable levels of undeclared allergens and gluten pose a risk to consumers. The assessment of a health risk is actually based on exposure to the allergen through consumption. The exposure is calculated by using the typical serving sizes for each food based on the Canadian Food and Drug

Regulations; Schedule M. 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. In all cases, positive results obtained are evaluated and a food safety investigation is conducted. In circumstances where the testing results indicate that the products can be a risk to consumers, the appropriate level of risk management action is taken which can include product recall from the market. Other possible actions resulting from positive testing result can range from testing more samples to inspection of the facility where the product was processed or sold.

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 information 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 help build public confidence in their food supply by removing unsafe/unlawful products. The CFIA continues its surveillance activities and informs the Canadian public and stakeholders of its findings.

# References

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