



# Undeclared Allergens in Refrigerated Dips and Spreads - 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 use them to focus surveillance on potential areas of higher risk. Surveys can also help 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 allergens in refrigerated dips and spreads. 400 samples were tested, and 14 of the samples were found to contain undeclared allergens including the milk protein beta-lactoglobulin (BLG), almond, egg, gluten, peanut, sesame, and soy. Most positive results indicated the presence of peanut in vegetable products.

All positive results were forwarded 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 agency is based on the seriousness of the contamination and the resulting health concern as determined by a health risk assessment. None of the products accessed by CFIA as a result of this survey were deemed to represent a health risk to consumers. 1 sample with undeclared egg was forwarded to Ministry of Agriculture, Fisheries and Food, Quebec (MAPAQ) for further investigation.

## 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 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 estimated to affect up to 5% of adults and up to 8% of children in developed countries<sup>2</sup>. 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. Approximately 1% of the total population are affected with celiac disease<sup>3</sup>.

The priority food allergens are the 10 most common food allergens that are 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 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<sup>5</sup>. Gluten can cause digestive problems and other issues for people with certain health conditions such as celiac disease and gluten sensitivity. This makes proper identification and labeling of allergens in food by the manufacturer essential.

Undeclared allergens and gluten can be found in food 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 their levels as low as reasonably possible.

This was the first survey conducted by the agency for undeclared allergens and gluten in refrigerated dips and spreads. The main objective of this survey was to obtain baseline information regarding the presence and levels of undeclared allergens and gluten in refrigerated dips and spreads products

All products were tested “as sold,” meaning that they were not prepared as per the manufacturer’s instructions or as they would typically be consumed.

## What did we sample

All products were sampled from May 2016 and 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 **all** of the following allergens in the list of ingredients (1 of or more in the list of ingredients was fine for testing) – almond, hazelnut, milk, peanut, soy, egg, sesame, wheat, barley, oats, rye, triticale, or gluten.
- Products with no list of ingredients.
- Products with a precautionary statement for all priority allergens.
- Non-refrigerated, shelf stable products.

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

Product type	Number of samples			
	Domestic	Imported	Unspecified origin <sup>a</sup>	Total
Bean products	1	13	11	25
Chickpea products	10	19	46	75
Vegetable products	21	78	52	151
Miscellaneous dairy products	40	15	94	149
<b>Total</b>	<b>72</b>	<b>125</b>	<b>203</b>	<b>400</b>

<sup>a</sup>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/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 the *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 that 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

96.5% of all refrigerated dips and spreads sampled in this survey did not contain any detectable levels of undeclared allergens, while 14 of the samples tested in this survey tested positive for undeclared allergens. These positive results primarily resulted from detection of low levels of peanut. The majority of undeclared allergens found were in vegetable products.

**Table 2. Levels of Allergens in Refrigerated Dips and Spreads in ppm or 1 mg / kg**

Sample type	Level of allergen in positive samples								
	Almond ppm	BLG ppm	Casein ppm	Egg ppm	Gluten ppm	Hazelnut ppm	Peanut ppm	Sesame ppm	Soy ppm
<b>Bean products</b>									
Sweet potato and harissa dip								4.7	
<b>Chickpea products</b>									
Spicy hummus				1.3					
Homous							1.3		
<b>Vegetable products</b>									
Spinach dip -1					48				
Spinach dip - 2		0.8							
Spinach dip - 3				1614.8					
Black olive tapenade							0.39		
Cashew cultured cream cheese style jalapeno & lemon spread		0.2							
Fresh onion dip							0.41		
Spinach & kale dip made with Greek yogurt				0.83					
<b>Misc. dairy products</b>									
Roasted jalapeno greek yogurt dip							2		
Sumac honey and mint labneh Dip	1.2								
Tzatziki yogurt									0.98
Traditional tzatziki yogurt dip							0.31		

Note: All samples were tested for a variety of allergens dependant on the ingredients in the food. Only positive results for allergens were included in the table.

# What do the survey results mean

Of the 400 samples tested, 96.5% did not contain any detectable levels of undeclared allergens and gluten. Of the 14 allergen positive refrigerated dips and spreads samples, undeclared allergens were most frequently present in vegetable products.

## **Almond**

Only 1 of the products sampled tested positive for undeclared almond. This result was deemed not to pose a health risk to consumers. The low level of almond was likely present as a result of cross-contamination.

## **Egg**

Detectable levels of undeclared egg were found in 3 products tested in this survey. The levels were assessed not to pose a risk to consumers. Egg was likely present as a result of cross-contamination.

## **Gluten**

A low level of undeclared gluten was detected in 1 of the products tested. This result was not determined to be high enough to pose a risk to consumers, and was likely present due to cross-contamination or co-mingling of ingredients.

## **Milk**

Detectable levels of the milk protein BLG were found in 2 of the samples tested. None of the samples tested positive for casein. The low levels of BLG were likely the result of cross-contamination. None of the products were assessed as presenting a risk to consumers.

## **Peanut**

5 products were found to contain undeclared peanut. Since the levels detected were low, it is likely that contamination occurred through inadvertent exposure to peanut products. The detected levels were low and were determined not to pose a risk to consumers.

## **Sesame**

Sesame was present in 1 of the products tested in this survey. The detected level was not deemed high enough to present a health risk to consumers.

## **Soy**

1 of the products sampled tested positive for a low level of undeclared soy. This could be the result of inadvertent exposure of 1 of the ingredients to soy products. This product was assessed not to pose a risk to consumers.

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.

All positive allergen findings accessed by CFIA were determined not to pose a risk to consumers. As a result, no CFIA initiated recalls were made based on the results of this survey. 1 sample with undeclared egg was forwarded to Ministry of Agriculture, Fisheries and Food, Quebec (MAPAQ) for further investigation.

This survey generated new information on the background level of undeclared allergens in refrigerated dips and spreads 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 help build public confidence in their food supply by removing non-compliant products.

# References

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