



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Undeclared gluten in dairy alternative products – April 1, 2022, to March 31, 2023

Food allergen – Targeted surveys



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Executive 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 gluten in dairy alternative products. Of the 400 samples tested, 55 samples were found to contain gluten, and all of these samples were dairy-free oat milk products without gluten-free claims.

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 disease¹. Therefore, of all positive samples, 44 positive samples 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 the Agency is based on the level of the contamination and the resulting health concern as determined by a health risk assessment by Health Canada. None of the products sampled in this survey were found to represent a health risk, so no product recalls were performed.

What targeted surveys are

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 the survey was conducted

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 lower². 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 countries³. 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 disease⁴.

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 wheat⁵. 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 list¹. 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 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 main objective of this survey was to obtain baseline information regarding the presence and levels of undeclared gluten in dairy alternative 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 we sampled

All products were sampled between April 2022 and March 2023. Samples were collected from local and regional grocery stores located in 6 major cities across Canada. These cities represented 4 geographical areas:

- Atlantic (Halifax)
- Quebec (Montreal)
- Ontario (Toronto, Ottawa)
- West (Vancouver and Calgary).

The number of samples collected from these cities was in proportion to the relative population of the respective areas.

This survey contains 400 samples. For 300 of these samples, the following products were not included:

- Products with **any** of the following allergens in the list of ingredients – wheat, barley, oats, rye, triticale, or gluten
- Products with a precautionary statement for gluten
- Non pre-packaged products/bulk bin products
- Products with no list of ingredients
- Products past the best before date

For the other 100 samples, the following products were not included:

- Products with **any** of the following allergens in the list of ingredients – wheat, barley, rye, triticale, or gluten
- Non pre-packaged products/bulk bin products
- Products with no list of ingredients
- Products past the best before date

Table 1: Distribution of samples based on sample type and origin

Sample type	Domestic	Import	Unspecified ^a origin	Total
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Dairy-free butter/spread	1	25	13	39
Dairy-free cheese	13	21	3	37
Dairy-free cream	0	29	5	34
Dairy-free dessert	32	51	25	108
Dairy-free dessert (oat) with gluten-free claim	1	2	1	4
Dairy-free milk (others)	13	20	7	40
Dairy-free milk (oat) with gluten-free claim	0	0	1	1
Dairy-free milk (oat) without gluten-free claim	58	28	15	101
Dairy-free yogurt	11	9	15	35
Dairy-free yogurt (oat) with gluten-free claim	0	1	0	1
Total	129	186	85	400

Table notes

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

How samples were 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 ingredients 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 claim¹.

Results of the survey

86.3% of the dairy alternative products tested in this survey contained no detectable levels of gluten. The results for 55 positive samples are shown in Table 2 below.

Table 2: Levels of gluten in dairy alternative products in parts-per-million (ppm)

Sample type	Sample description	Gluten
Dairy-free milk (oat) without gluten-free claim	Barista series oat plant-based beverage	6
Dairy-free milk (oat) without gluten-free claim	Barista UHT oat drink	6.2
Dairy-free milk (oat) without gluten-free claim	Naked original organic oats beverage	7.8
Dairy-free milk (oat) without gluten-free claim	Chocolate fortified oat beverage	7.9
Dairy-free milk (oat) without gluten-free claim	Chocolate fortified oat beverage	8
Dairy-free milk (oat) without gluten-free claim	Barista oat foamable drink	8.1
Dairy-free milk (oat) without gluten-free claim	Barista series oat plant-based beverage original	9.8
Dairy-free milk (oat) without gluten-free claim	Organic barista oat beverage	10
Dairy-free milk (oat) without gluten-free claim	Just UHT oat drink	11
Dairy-free milk (oat) without gluten-free claim	Vanilla fortified oat beverage	14
Dairy-free milk (oat) without gluten-free claim	Organic oat vanilla beverage	20
Dairy-free milk (oat) without gluten-free claim	Oat original fortified oat beverage	23
Dairy-free milk (oat) without gluten-free claim	Organic oat original beverage	24
Dairy-free milk (oat) without gluten-free claim	Oat nog oat beverage	30
Dairy-free milk (oat) without gluten-free claim	Original fortified oat beverage	31
Dairy-free milk (oat) without gluten-free claim	Vanilla fortified oat beverage	35
Dairy-free milk (oat) without gluten-free claim	Barista UHT oat drink	35
Dairy-free milk (oat) without gluten-free claim	Oat nog	40
Dairy-free milk (oat) without gluten-free claim	Organic unsweetened oat drink	43
Dairy-free milk (oat) without gluten-free claim	Fortified oat chocolate beverage	44
Dairy-free milk (oat) without gluten-free claim	Oat nog	49
Dairy-free milk (oat) without gluten-free claim	Original fortified oat beverage	49
Dairy-free milk (oat) without gluten-free claim	Vanilla fortified oat beverage	50
Dairy-free milk (oat) without gluten-free claim	Barista UHT oat drink	51
Dairy-free milk (oat) without gluten-free claim	Original fortified oat beverage	52
Dairy-free milk (oat) without gluten-free claim	Fortified oat original beverage	54
Dairy-free milk (oat) without gluten-free claim	Oat original fortified beverage	57
Dairy-free milk (oat) without gluten-free claim	Vanilla fortified oat beverage	59
Dairy-free milk (oat) without gluten-free claim	Vanilla oat fortified oat beverage	59
Dairy-free milk (oat) without gluten-free claim	Vanilla oat milk	65
Dairy-free milk (oat) without gluten-free claim	Vanilla fortified oat beverage	68
Dairy-free milk (oat) without gluten-free claim	Vanilla fortified oat beverage	68
Dairy-free milk (oat) without gluten-free claim	Barista fortified oat beverage	70
Dairy-free milk (oat) without gluten-free claim	Oat beverage	72
Dairy-free milk (oat) without gluten-free claim	Barista fortified oat beverage	77
Dairy-free milk (oat) without gluten-free claim	Fortified oat beverage chocolate	77
Dairy-free milk (oat) without gluten-free claim	Original fortified oat beverage	78

Dairy-free milk (oat) without gluten-free claim	Oat beverage	79
Dairy-free milk (oat) without gluten-free claim	Chocolate fortified oat beverage	85
Dairy-free milk (oat) without gluten-free claim	Original fortified oat beverage	87
Dairy-free milk (oat) without gluten-free claim	Vanilla fortified oat beverage	90
Dairy-free milk (oat) without gluten-free claim	Barista fortified oat beverage	95
Dairy-free milk (oat) without gluten-free claim	Vanilla fortified oat beverage	95
Dairy-free milk (oat) without gluten-free claim	Organic natural oat drink	110
Dairy-free milk (oat) without gluten-free claim	Chocolate fortified oat beverage	110
Dairy-free milk (oat) without gluten-free claim	Oat chocolate fortified oat beverage	130
Dairy-free milk (oat) without gluten-free claim	Oat beverage	140
Dairy-free milk (oat) without gluten-free claim	Oat beverage	150
Dairy-free milk (oat) without gluten-free claim	Barista fortified oat beverage	160
Dairy-free milk (oat) without gluten-free claim	Oat beverage	160
Dairy-free milk (oat) without gluten-free claim	Oat beverage for baristas	170
Dairy-free milk (oat) without gluten-free claim	Barista fortified oat beverage	180
Dairy-free milk (oat) without gluten-free claim	Oat beverage	180
Dairy-free milk (oat) without gluten-free claim	Original fortified oat beverage	190
Dairy-free milk (oat) without gluten-free claim	Original fortified oat beverage	250

What the survey results mean

Of the 400 samples tested in this survey, 86.3% (345) did not contain any detectable levels of gluten, while 55 samples were found to contain gluten. All of these 55 samples were dairy-free oat milk products without gluten-free claims. The best currently available scientific evidence indicates that levels of gluten at or below 20 ppm in gluten-free foods would be protective of the health of the vast majority of people with celiac disease¹. Therefore, 44 positive samples were forwarded to the CFIA's OFSR for follow-up. None of the products sampled in this survey were found to represent a health risk, so no products were recalled.

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

Gluten

55 dairy-free oat milk products without gluten-free claims were found to contain varying levels of gluten (6 to 250 ppm). Although oats are naturally free from gluten, they are well known to be at

high risk for cross-contamination with gluten-containing grains due to crop rotation, shared harvesting equipment, etc.^{6,7}. 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 claim¹. All of these 55 dairy-free oat milk products don't have gluten-free claims indicated on them. Therefore, these products were assessed as being of no risk to consumers, so no product recalls were needed.

Summary

None of positive allergen findings in this survey were determined to pose a risk to consumers, and no product recalls was performed.

This survey generated additional information on the presence and level of undeclared gluten in dairy alternative products 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 the 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.

Where to access the survey data

The data will be accessible on the [Open Government Portal](#).

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