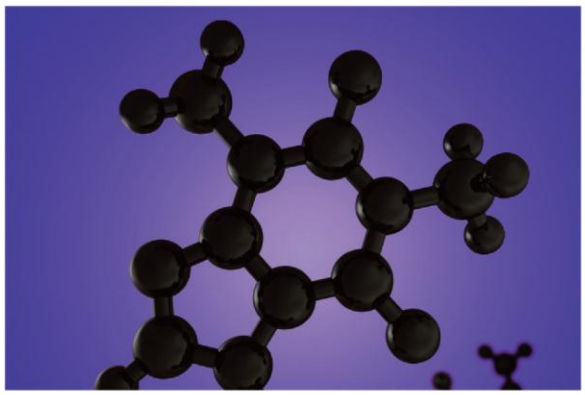
Canadian Food Inspection Agency
Agence canadienne d'inspection des aliments

Food Safety Action Plan

REPORT

2011-2012 Targeted Surveys

Allergens



Undeclared Egg in Pasta

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Canada

Executive Summary

The Food Safety Action Plan (FSAP) aims to modernize and enhance Canada's food safety system. As part of the FSAP enhanced surveillance initiative, targeted surveys are used to evaluate various foods for specific hazards.

Egg may be used as an ingredient in pasta, in particular egg pastas. Egg may also be present in a pasta product through cross contact, for example from sharing production lines or equipment with a pasta containing egg.

The main objectives of the undeclared egg in pasta survey were:

- To obtain baseline information regarding the presence and levels of undeclared egg in pasta.
- To identify potential food safety concerns relating to undeclared egg in pasta.

A total of 295 pasta products were analysed for the presence of egg. Of 28 samples that had a precautionary statement for egg on the label, one sample was positive for egg. Of 267 samples that had no precautionary statement for egg on the label, 6 samples were positive for egg. All positive results were followed up by the CFIA. Follow up action may involve a food safety investigation, including a health risk assessment conducted by Health Canada and a recall or one of the following: notification of manufacturer/importer and/or additional sampling.

1 Introduction

1.1 The Food Safety Action Plan

In 2007 the Canadian Government launched a five year initiative in response to a growing number of product recalls and concerns about food safety. This initiative, called the Food and Consumer Safety Action Plan (FCSAP), aims to modernize and strengthen the food safety regulatory system. The FCSAP initiative unites multiple partners in ensuring safe food for Canadians.

The CFIA's Food Safety Action Plan (FSAP) is one element of the Government's broader FCSAP initiative. The goal of FSAP is to identify risks in the food supply, limit the possibility that these risks occur, improve import and domestic food controls and identify food importers and manufacturers. FSAP also looks to verify that the food industry is actively applying preventative measures.

Within FSAP, there are twelve main areas of activity, one of which is risk mapping and baseline surveillance. The main objective of this area is to better identify, assess and prioritize potential food safety hazards through risk mapping, information gathering and testing foods from the Canadian marketplace. Targeted surveys are one tool that is used to test for the presence and level of a particular hazard in specific foods. Targeted surveys are largely directed towards the 70% of domestic and imported foods that are covered exclusively by the *Food and Drugs Act*, and are generally referred to as non-federally registered commodities.

1.2 Targeted Surveys

Targeted surveys are used to test various foods for specific hazards and are meant to compliment the CFIA's regular programs and inspection activities. The surveys are designed to answer specific questions about hazards in food. Generally, they test for the occurrence and magnitude of defined hazards in targeted foods, often with the testing focusing on a specific segment of the population (i.e., consumers with an allergy or intolerance).

This targeted survey focused on the presence of undeclared egg in pasta. Egg may be used as an ingredient in pasta, in particular egg pastas. Egg may also be present in a pasta product through cross contact from sharing production lines or equipment with a pasta containing egg.

The information gathered will assess the compliance of these products with Canadian regulations and will provide an indication if follow up with industry is required.

1.3 Acts and Regulations

The *Food and Drug Act* (FDA) is the legal authority that governs the sale of food in Canada. The *Canadian Food Inspection Agency Act* stipulates that the CFIA is responsible for enforcing restrictions on the production, sale, composition and content of foods and food products as outlined in the *Food and Drugs Act & Regulations* (FDA and FDR).

If a pre-packaged food product displays a list of ingredients without disclosing potential allergens this may result in a health risk to allergic consumers. Failure to declare allergenic components may be contrary to Subsection 5(1) of the FDA. These products may therefore be subject to regulatory measures taken by the CFIA.

Health Canada has recently made amendments to the *Food and Drugs Regulations* to enhance the labelling of priority allergens, gluten sources and sulphites in pre-packaged food sold in Canada. On February 16, 2011 Health Canada published these amendments in the *Canada Gazette*, Part II. The amendments require that food allergen and gluten sources be declared on the labels of pre-packaged foods, having a list of ingredients, whenever the protein, modified protein or protein fractions of the food allergen or gluten source are added to the product. The amendments came into force on August 4, 2012**.** Further information on these regulations can be found on the Health Canada website.[i]

The products analyzed in this survey were sampled prior to these amended regulations coming into force; however, proactive actions by the manufacturing sector may have occurred to ensure that these products did meet the amended regulations.

2 Allergens Survey

2.1 Rationale

The presence of undeclared egg in a food is not a concern for the majority of Canadians. However, the presence of undeclared egg may represent a serious or life threatening health risk for allergic individuals.

The main objective of this survey is to obtain baseline information regarding the presence and levels of undeclared egg in pasta. Egg may also be present in a pasta product through cross contact, for example from sharing production lines or equipment with a pasta containing egg. The information gathered will provide an indication of potential food safety concerns relating to undeclared egg in pasta.

2.2 Hazard: Undeclared Egg

Egg allergies are considered one of the most common allergies in children, with 0.2% to 1.6% of this population estimated as being affected. [ii] According to Soller et al, 2012, in Canada, self-reported prevalence rates are estimated at 1.2% in children and 0.8% in the general population.[iii] Both egg whites and egg yolk contain allergenic proteins, with a much higher concentration found in egg whites.[iv v]

There is no cure for a food allergy, and the most important strategy for a person with a food allergy, or a person choosing food for an individual with a food allergy, is avoidance of the allergen that can trigger an adverse reaction. Allergens should be appropriately labelled to ensure consumers have complete, accurate information when choosing food products.

2.3 Sample Distribution

This survey targeted pasta products, including wheat, rice and corn based products as well as soups containing pasta. Samples were collected based on availability in 2011 and 2012 from major retail stores as well as smaller and ethnic retailers across Canada. No specific brands were targeted. A total of 295 samples were collected. The distribution of samples by product type is listed in Table 1. There were 28 samples that had precautionary labelling for egg, further details can be found in Table 2.

Table 1: Pasta sample distribution

	Domestic or Imported*			
Sample type	**Domestic**	**Imported**	**Unknown**	**Total**
Wheat	76	87	8	171
Corn	1	45	0	46
Rice	40	16	1	57
Soup (containing pasta)	7	11	1	19
Buckwheat	0	1	0	1
Lentil	1	0	0	1
Total	**125**	**160**	**10**	**295**

* Indicates where pasta/soup product was produced

Table 2: Type and number of precautionary statements on the label of sampled pasta products				
Statement	**Product type**			
	Wheat pasta	**Pasta in Soup**	**Corn based pasta**	**Total**
May contain egg	11	0	2	13
Made in a facility that also uses/processes egg	2	3	0	5
May contain traces of egg	9	0	0	9
Produced on equipment that also produced product that contains egg	1	0	0	1
Total	23	3	2	28

2.4 Limitations

A total of 295 samples were all purchased in 2011-2012 at various retail stores in Canada. This represents a small sample size in comparison to what is available to Canadian consumers. The samples collected in this survey do not guarantee representation of all pasta products available nationally. The data collected from this survey is meant to provide a snapshot of the targeted commodity and has the potential to highlight problem areas that warrant further investigation.

2.5 Methodology

Samples were analyzed by a laboratory under contract with the Government of Canada. The laboratory is accredited to ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories (or its replacement by the Standards Council of Canada).

The samples were tested for the presence of egg, using the Veratox Quantitative Egg Allergen Test. The reporting limit was 2.5 parts per million (ppm) egg.

3 Results and Discussion

A total of 295 pasta samples were analyzed for the presence of egg, of these, 28 samples had precautionary labelling for egg. Therefore, there were 267 samples that did not have precautionary labelling for egg. A breakdown of the types of pasta product sampled can be found in Table 1. Information on the samples that had precautionary labelling can be found in Table 2.

Seven samples had detectable levels of egg (Table 3). Of the 7 samples with detectable egg, 1 sample had precautionary labelling to indicate the potential presence of egg. It is expected that egg allergic consumers would avoid products with precautionary labelling for egg. The remaining six samples with detectable levels of egg (~2% of the total samples) had no precautionary labelling for egg on the label.

Of these 6 samples, 3 were wheat based pasta samples (of a total of 171 wheat based pasta) and 3 were wheat based pasta in soup (of a total of 19 soup products) (Table 3).

Table 3: Positive Sample distribution

Product type	Result (ppm)	Domestic/Imported
Pasta* (wheat)	25	Domestic
Pasta (wheat)	16	Import (Italy)
Pasta (wheat)	6.4	Import (Italy)
Pasta (wheat)	5.1	Import (Vietnam)
Soup	370	Domestic
Soup	18	Import (USA)
Soup	15	Domestic

* There is a precautionary statement on the label indicating the product may contain traces of egg.

4 Conclusion

Of 267 pasta products that did not have a precautionary statement for egg, 6 samples (~2%) contained detectable levels of egg. The detectable levels of egg were found in 3 wheat based pasta samples (from a total of 171 wheat based pasta samples) and 3 wheat based pasta in soups (from a total of 19 soup products).

This survey included a small number of soup samples, 19, however, 3 (~15%) of these contained detectable levels of egg. These results indicate this product type may warrant further study. No definite conclusions can be drawn as to the source of the egg protein. All positive results were followed up by CFIA. Follow up action may involve a food safety investigation, including a health risk assessment conducted by Health Canada and a recall or one of the following: notification of manufacturer/importer and/or additional sampling.

5 References

[i] Health Canada. *Health Canada's Modifications to Regulatory Project 1220- Enhanced Labelling for Food Allergens, Gluten Sources and Added Sulphites* [online]. 2010. Accessed October 10, 2012, http://www.hc-sc.gc.ca/fn-an/label-etiquet/allergen/proj1220-modifications-eng.php.

[ii] Mine, Y. and M. Yang.(2008) Recent advances in the understanding of egg allergens: basic, industrial and clinical perspectives. Journal of Agricultural and Food Chemistry. 56:4874-4900.

[iii] Soller et al, (2012) Overall prevalence of self-reported food allergy in Canada. Journal of Allergy and Clinical Immunology. Volume **130**(4):986-988.

[iv] Mine, Y. and M. Yang.(2005) Recent advances in the understanding of egg allergens: basic, industrial and clinical perspectives. Journal of Agricultural and Food Chemistry. 56:4874-4900.

[v] R.G. Heine, N.Laske, D.J. Hill, The Diagnosis and management of Egg Allergy. *Current allergy and Asthma reports*. 2006, **6:**145-152