

Gluten Free Foods

A survey to investigate the accuracy of “gluten free” claims

Background to the survey

Gluten free products are an important food source for individuals suffering from Coeliac Disease. Coeliac Disease is a relatively common condition with an incidence in Australia estimated to be 1 in 266¹. The symptoms of Coeliac Disease can include diarrhoea and constipation but also fatigue, anaemia, flatulence, nausea and weight loss¹. Less common symptoms may include ulcerations of the mouth and tongue, delayed puberty, stunted growth and bone and joint pains¹. Serious complications including cancer occur in some patients but generally the prognosis is excellent with treatment².

Gluten is a protein found principally in wheat but is also present in rye, barley and oats. While sufferers vary in their ability to tolerate gluten, some are very sensitive and need to avoid gluten entirely. Depending on their sensitivity Coeliacs manage their condition either by minimizing or avoiding entirely gluten-containing foods. The accuracy of “gluten free” claims on a label is very important in enabling sufferers to make an informed purchasing choice and to protect their health.

Standards

The Food Standards Code establishes the legislative requirements for foods sold in Australia and New Zealand. Standard 1.2.8 Part 2 of the Code states that claims to the effect that a food is ‘gluten free’ must not be made unless the food contains no detectable gluten. The limit of detection is 20ppm. The Code can be viewed at www.foodstandards.gov.au

What foods were tested?

Fifty-three foods with “gluten free” claims were purchased from 8 retail outlets in Adelaide that included major supermarkets, health food stores and the Coeliac Society shop. All ‘gluten free’ foods that were on display in conventional retail shops were sampled and all categories of ‘gluten free’ foods were sampled from the Coeliac Society shop. This represented a cross-section, reflecting the bulk, of ‘gluten free’ products on sale in Adelaide at the time of the survey.

The different categories of foods sampled were:

- Cereals/Muesli/Grains
- Confectionary
- Rice

- Cookies/Biscuits/Crispbread
- Bread & Bread Products
- Sauces/Gravy
- Spreads
- Dairy
- Meat
- Pasta
- Infant Food

What did we test for?

All samples were sent to the National Measurement Institute (NMI) in Melbourne for analysis. NMI used the Gluten Assay Kit, a quantitative method for the detection of wheat gluten in foods which has a gluten detection limit of 20ppm.

Results

The foods sampled in this survey were:

Food Category	<i>n</i>	<i>d</i>	Result
Cereals/Muesli/Grains	13	0	
Confectionary	2	0	
Rice	3	0	
Cookies/Biscuits/Crispbread	13	0	
Infant Food	3	0	
Pasta	3	0	
Flour	6	1	32mg/kg
Bread & Bread Products	2	0	
Sauces/Gravy	3	0	
Spreads	3	0	
Dairy	1	0	
Meat	1	0	
TOTAL	53	1	

n = number of foods

d = number of detections (i.e. gluten detected)

Discussion of results

Only one sample, a cornflour, contained a detectable level of gluten and so did not comply with the Food Standards Code. While the level of detection was low there is a possibility that it could have some effect on sensitive sufferers of coeliac disease. The cornflour was an imported product that was landed interstate. Cornflour should not contain any gluten and the detection may indicate cross-contamination at the overseas packing plant. The interstate regulatory authority has visited the importer and found no further product for sale. The authority has advised that future imports of this cornflour will be accompanied by a certificate of analysis to ensure compliance.

Conclusion

The survey found a high level of compliance with foods tested for “gluten-free” claims. Fifty-three out of fifty-four foods tested (98%), representing a significant quantity of the “gluten-free” packaged foods on the market in South Australia in 2004, contained no detectable gluten. One sample of imported cornflour contained a low level (32 mg/kg) of gluten and the importer has applied appropriate corrective action.

References

1. Fassano A, Catassi C. Current Approaches to diagnosis and treatment of coeliac disease. *Gastroenterology* 2001;120:636-51.
2. Friedman S L, McQuaid K R, Grendell J H. Mucosal Disorders Causing Generalised Malabsorption. *Current Diagnosis and Treatment in Gastroenterology* 2003: pp376-377.