Allergens database for gluten in foods

Identification

Key words  food, allergen, database, analysis, gluten
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Completed by  FRIP

How does it work?

Primary objective  To avoid statements being made on the possible presence of allergens (e.g. "this product may contain...") when these might not be present, so that sensitised people are not withheld from eating products when they shouldn't be.

Working principle  Currently the only database available on gluten free products exists in Czech version only:
The database lists specific food products (described in detail) and their gluten content that has been assessed by FRIP.
The scope of this database can be broadened to contain also information on other allergens.
Other allergens database can be seen in technology sheet Improved gluten free bread. [1-28]

Images

Additional effects  It can also help food manufacturers to declare their products properly, as products that were labelled gluten-free can be shown to contain gluten. The database should provide warnings on such product (e.g. when claimed gluten free) and also producer is informed. Such product should be removed from retail.
The database enables patients to calculate the daily intake of gluten consumed in their special diet. The database enables to compose also their menu.

Important process parameters

Important product parameters  Threshold concentrations of allergens should be defined but are not available yet, it is defined only for gluten in European legislation (20 mg of gluten per kg of product), results of analysis for given allergen is most important parameter

What can it be used for?

Products  All food products
Operations
Solutions for short comings  Industry can use the database of allergen content in different components and foods for quick and cheap orientation in new formulation and preparing labelling of their products.
Remark: Allergen analysis is available currently only as laboratory method. The high-tech innovations can help in introducing these methods into the industrial and home conditions in future.
What can it NOT be used for?

**Products**
Restricted products are relative to consumer sensitivity and content of specific allergen in the food.

**Operations**
Restricted operations are depending on the action of the operation on the activity of allergen in human body. Is has to be predicted by testing on individual patient or group of patients.

**Other limitations**
Data given in the database can be used as guidance for patients and their medical doctors what foods have to be avoided.

**Risks or hazards**
Restrictions may be false positive and false negative results at some foods in case of ELISA methods.

Implementation

**Maturity**
Food allergens determination methods is done at lab scale, therefore, it might be difficult to perform the tests at the producer.

**Modularity**
Current version of databases can be used by public and also by the factory staff.

**Consumer aspects**
Positive acceptance of consumers is known from an existing gluten-free food database.

This information technology could help the people (patients) suffering from various types of food allergy. A very confusing situation and fact is, that the producers declare on the food labels a presence of various allergens also in the situation, when the product does not contain that allergen. The consumer is confronted with such remarks as “the product may contain.....” or “the product is produced in the factory when wheat, milk..... is processed, used” etc. Such statements are confusing and misleading. The most people suffering from allergy are careful and read a list or ingredients properly and do not buy food products with such statements. Unfortunately this situation results in a certain limitation in the food choice and decreases the amount of food products available for these patients.
Legal aspects

There are references below on existing legislation regarding the allergens declaration on labeling and on other topics of allergens. New food labeling rules should make it easier for people with a food allergy or intolerance to choose foods that are suitable for them. From 25 November 2005, the new rules, introduced by EC Directive 89/2003, requires pre-packed foods sold in the UK and the rest of the European Union to show clearly on the label if they contain any of 12 listed allergenic foods as an ingredient.

The 12 foods listed in the new rules are: peanuts; nuts (such as almonds, hazelnuts, walnuts, Brazil nuts, cashews, pecans, pistachios and macadamia nuts); eggs; milk; crustaceans (including prawns, crabs and lobsters); fish; sesame seeds; cereals containing gluten (including wheat, rye, barley and oats); soya; celery; mustard; sulphur dioxide and sulphites (preservatives used in some foods and drinks) at levels above 10 mg per kg or per litre.

Some ingredients derived from these foods are exempt from the new rules, because they are highly processed and so are no longer able to cause allergic reactions.

The producer does not have to label the substances with allergenic effect providing that the presence of allergen is clear from the name of the product (for example “wheat flour” (wheat is allergen), chocolate with hazelnuts (hazelnut is allergen), “fish fingers” (fish is allergen) etc. It means, that the consumer must find any present allergen in the name of the product or in the list of ingredients. Many producers use a specific formulation (warnings) “the product may contain...” or “the product is manufactured on a shared line with products containing wheat and soy” etc. Such warnings are in the opinion of the many experts very confusing and useless, false, misleading... (www.food.gov.uk/safereating/allergyintolabel/)

Environmental aspects

Unknown environmental impact.

Facilities that might be interesting for you

Further Information

Institutes IFR, FRIP
Companies
References
