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## Editorial Comment

### Collaboration and Consumer Safety

This issue of the newsletter focuses on two aspects: collaboration on one hand and improving consumer safety and understanding on the other.

Marie Cristina López reports about the situation of MERCOSUR with respect to labeling of allergens in pre-packaged foods, and Judith Molinari about biosensors for milk protein quantification. Lauren Jackson discusses the integrated project with FDA, IFSH and General Mills on optimal allergen biomarkers for effective assay and labelling.

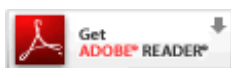
The current issue also contains updates on the public consultations in UK and Canada, including the recently launched interactive website explaining in simple terms food labeling - including allergy advice - on different product categories. FSA also maintains a very informative website on technical guidance on allergen labeling for SMEs. Similar to Health Canada, the FSA also has launched a website to train enforcement officers on food labeling. However, this page can equally be used by food producers and interested consumers alike.

And last but not least, dates and times for the allergen sessions at the AOAC International annual meeting in Boca Raton are posted.

The Editorial Team looks forward to seeing you all there and discuss the latest developments in beautiful Florida.

**Bert Popping | Editorial Team Member**

This is an interactive document optimized to be viewed with [Adobe Reader](#). All hyperlinks built in the text appears in green color.



# AOAC Food Allergen Community



### Editorial Team

*Editor in Chief:*  
Carmen Diaz-Amigo

*Editorial Members:*  
Terry Koerner  
Jupiter Yeung  
Michael Abbott  
James Roberts  
Bert Popping

*Graphic Design:*  
Carmen Diaz-Amigo

## News

### Situation in MERCOSUR about the labeling of the major allergens present in pre-packaged foods

Argentina, Brazil, Paraguay, Uruguay and since 2012 Venezuela, are full members of MERCOSUR (Common Market of the South) created in 1991. This regional agreement sets, among other topics, the adoption of harmonized legislation in relevant areas in order to strengthen the integration process. One of the most relevant areas is foods regulation.

The Food Commission, within the Sub-Working Group No. 3 "Technical Regulations and Evaluation of Conformity", is in charge of elaborating MERCOSUR Standards related to food. These Standards, once developed, must become regulations of the member countries.

Regarding food labeling, MERCOSUR Resolution N° 26/3 regulates the labeling of pre-packaged foods for the countries mentioned above. In May 2011, Brazil proposed the review of some articles of this resolution and the inclusion of the "foods and ingredients that can cause reactions of hypersensitivity or intolerance" as part of the ingredients list. The list proposed was that of the Codex Alimentarius besides some synthetic colorants. All modifications and inclusions are being discussed since 2011.

On the other hand in September 2010 Argentina approved the regulation for the labeling of the major allergens present in pre-packaged foods. In this regulation the use of precautionary statements was not permitted (was explicitly forbidden). This would be the ideal situation for allergic consumers but, unfortunately, unworkable for the food industry. This is one of the reasons why the regulation was suspended in Jun 2011. Since 2013, the National Commission

of Foods (CONAL), which is the organization that proposes modifications of the Argentine Food Code, is dedicated, along with the Argentine Platform of Food Allergens, to the development of a consistent and clear regulation that would reflect the needs of allergic consumers and at the same time the industry limitations.

In June 5, the National Agency of Health Surveillance (ANVISA) in Brazil has opened the comment period for the proposed rule on the labeling of allergens in foods (Case 25351.296188/2011-21). The allergens proposed to be declared are those of the Codex Alimentarius list.

Venezuela already regulates the declaration of food allergens (Venezuelan Standard for the General Labeling of Pre-packaged Foods COVENIN 2952:2001-1st Revision). In this regulation the use of precautionary statements is explicitly permitted. Paraguay and Uruguay do not regulate the declaration of food allergens.

This is the current situation within MERCOSUR. There is an urgent need for the adoption of a uniform approach. This lack of harmonization is a real topic of concern due to the negative effects for the commerce within the region but, most of all, for the information provided to allergic consumers because the problem is that meanwhile food processors declare food allergens on the labels but, with the exception of Venezuela, nobody knows which rule they follow.

María Cristina López | INTI Argentina

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## Public Consultations in the UK and Canada

### UK - Technical guidance on new allergen labeling for SMEs

It's the smaller and medium size enterprises (SMEs) that are often hit hardest when regulations change. While the SMEs have a significant importance for the overall economy, they do not usually have dedicated departments, which can deal with the consequences and implementation of new regulations. This has also been acknowledged by the European Commission and now, for the consumer information regulation 1169/2011, new guidance documents are worked upon by the Food Standards Agency (FSA). This complex document also includes the labeling of allergens, and soon will incorporate the labeling rules for gluten-free and low-gluten products.

A first draft guidance has already been published for consultation, and by now, the second version is out for comments. Questions asked are, e.g. if the guidance helps understanding of the new allergen

requirements and helps SME to comply with the requirements.

The UK FSA maintains an excellent and informative website on this topic at [this LINK](#). On this site, you find the current status of the consultations as well as the most current version of the guidance document.

### CANADA – Public consultation on food labeling

The Canadian government is, as usual, very proactive helping consumers and industry alike. It has recently conducted a public consultation with the aim to collect the consumers perspective on how to improve food labeling. The resulting report has been published in website from Health Canada. The report addresses nutritional labeling, serving size, the use, reading and interpretation of food labels, and additional comments.

[More information »](#)

**Bert Popping & Carmen Diaz-Amigo**

### Free Online Tools

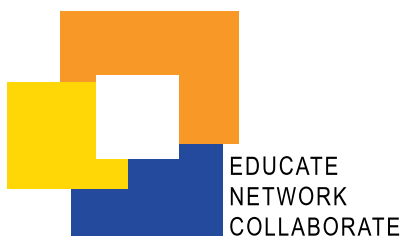
FSA has launched an online tool to train enforcement officers on food allergy. Although the training targets mainly government employees it can also be used by food industry operators and those who are, in one way or another, in charged of allergic consumers.

[More information »](#)

To help consumers, the Canadian Minister of Health launched an interactive online labeling tool, which allows consumers understanding the individual label elements, including nutrition facts, composition and nutrition claims, allergen declaration and gluten source, among other topics. This initiative will help consumers make informed choices about what they buy and consume.

[More information »](#)

### 128th AOAC Annual Meeting & Exposition



**September 7 - 10, 2014**  
**Boca Raton Resort & Club**  
**Boca Raton, Florida USA**  
[www.aoac.org](http://www.aoac.org)

[More Information »](#)

### Schedule of Food Allergen Session and Committee Meeting

#### Monday, September 8, 2014

10:00 am–5:00 pm

#### Food Allergen Poster Session

#### Tuesday, September 9, 2014

10:15 am–11:45 am

#### Monitoring the effectiveness of gluten-free labeling

Co-chairs: Girdhari Sharma, Jupiter Yeung, Carmen Diaz-Amigo

3:00 pm–4:30 pm

#### Gluten peptides under the microscope of LC-MS/MS: Now that you found them what do they mean?

Chair: Terry Koerner

5:15 pm–8:15 pm

#### Food Allergen Community Meeting

#### Wednesday, September 10, 2014

3:00 pm–4:30 pm

#### Allergenic protein hydrolyzate

Co-chairs: Joseph Baumert and James Roberts

## Research Highlights

### Optimal allergen biomarkers for effective assays and labeling: A collaborative project between FDA, IFSH and General Mills

A collaborative research project involving several FDA/CFSAN offices, the Institute for Food Safety and Health (IFSH) and General Mills is evaluating several allergen biomarkers and methods for detecting and quantifying milk, egg and peanut allergens in bakery products (muffin and cereal bars) from the formulation phase through the packaging phase. Bakery products were chosen as the model system for this study because this food type was the most frequent entry in the FDA Reportable Food Registry for undeclared allergens. This project is also evaluating the effectiveness of common cleaning/sanitation methods for removing allergenic food residue from equipment used in bakery operations. In conjunction with the cleaning study, methods for verifying the efficacy of cleaning methods are being assessed. Use of pilot-scale equipment ensures that the products being studied are similar in nature to commercially available food products, and that sanitation procedures mimic those used by the food industry for allergen control.

Completed thus far was an assessment of several cleaning regimens on removal of allergenic food residue from an intentionally contaminated pilot-scale muffin processing line. Muffins containing peanut flour, non-fat dry milk and egg powder (100 or 5000 µg/g) were manufactured on a pilot-scale processing line followed by one of four cleaning regimens: 1) a push-through with control (no

added allergens) muffin batter, 2) scraping the equipment surfaces with rubber scrapers, 3) a rinse with hot (54-60°C) water until “visibly clean” and 4) a full cleaning cycle with alkaline detergent followed by use of a sanitizer. The adequacy of the cleaning treatments was assessed by swabbing locations (3 swabs/location) on the processing line (mixer, depositor, nozzle) followed by analysis of swabs with peanut-, milk-, and egg-specific lateral flow devices (LFDs). In the push-through experiment, samples of control muffin batter were collected in 1.5 kg intervals after pushing a total of 36 kg of control batter through the contaminated system. This was followed by allergen analysis of each sample using quantitative ELISA kits. Peanut, milk and egg were detected by LFDs on nearly all locations tested after scrape-out of equipment. LFDs indicated that the hot water rinse alone was not effective and the full cleaning and sanitation cycle was required for removing allergenic food residues. Allergens were detected on equipment surfaces, especially the nozzle and depositor, after push-through with control muffin batter. Baked muffins from the end of the cross-contact study contained up to  $12.9 \pm 0.7$  µg/g peanut,  $27.0 \pm 1.2$  µg/g milk, and  $9.5 \pm 2.4$  µg/g egg. Overall, these results illustrate the importance of validated cleaning protocols for preventing allergen cross-contact on shared processing lines.

Lauren S. Jackson | US FDA / CFSAN

## AOAC Food Allergen Community Newsletter

You can contribute with articles, news items or suggestions.

Submission deadline for the 3rd Issue of 2014: **October 24, 2014**

Send your articles to [AOAC.Allergens@gmail.com](mailto:AOAC.Allergens@gmail.com)

- ✓ Regulatory Updates
- ✓ Food Industry Initiatives
- ✓ Regional developments
- ✓ Your research
- ✓ Upcoming events
- ✓ Questions for our Experts
- ✓ Interested in a topic?

*Mark your calendar !!!*

## Biosensor for quantification of milk proteins

The methods employed at present for the detection of allergenic proteins target either the protein itself or DNA fragments. ELISA technique is the most commonly method used in laboratories of the food industry due to its high precision, low limits of quantification or detection, good potential for standardization and high specificity. However, the disadvantages include its relative time-consuming procedures and the use of laboratory equipment. The alternative method proposed in this work is a portable biosensor. This is a compact analytical device that incorporates a biological recognition element attached to a transducer system that can process the signal produced by the interaction between the biological recognition element and the allergenic protein. This method is based on competitive antigen-antibody reactions between milk proteins in the sample and those immobilized onto electrodes, where biorecognition events are transduced into electronic signals.



Figure 1. Electrochemical equipment connected to a netbook.

The electrodes were treated with an oxygen plasma to generate carboxylic groups on the surface, which were used as

anchoring sites for the proteins (caseins and  $\beta$ -lactoglobulin) through the carbodiimide reaction. Signal transduction is accomplished by a secondary horseradish peroxidase (HRP) conjugated antibody with specificity for the first antibody. The detection of the enzymatic activity of HRP is used as a current measured after the adding of hydrogen peroxidase and a suitable redox mediator at an adequate electrode potential. The electrochemical cells were connected to a portable potentiostat (Nanopoc) controlled by a PC via a USB port (Figure 1). Under these conditions, the concentration of these allergenic milk proteins can be inversely related to the measured current (Figure 2). The optimal system conditions were found to obtain a quantification range up to 10 ppm.

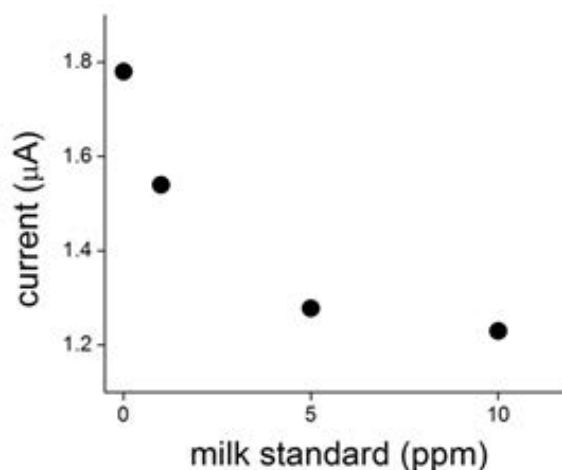


Figure 2. The measured current is related to the concentration of the allergenic proteins in the 0-10 ppm range.

This measurement range is useful for allergen monitoring in industry food activities and this portable equipment represent an important advantage as compared to commercial analytical methods.

Judith Molinari | INTI Argentina

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The AOAC Food Allergen Community is a forum serving the scientific community working on Food Allergens: The community is aimed to help AOAC INTERNATIONAL in its consensus-based scientific and advisory capacity on methods of analysis for allergens in foods and other commodities. It is also meant to serve the broader Stakeholder Community whose objectives it is to enhance the protection of food allergic consumers worldwide.

Contact us at  
[AOAC.Allergens@gmail.com](mailto:AOAC.Allergens@gmail.com)