

Harmonisation: a **GREEN LIGHT** for food safety?

The road to healthy food for all can be built on scientific consensus, says a new global working group.

Julie Larson Bricher, editorial director of *Food Safety Magazine* in the US, reports

There's no question that as the avenues of global trade widen, the higher the probability of 'traffic' jams in worldwide commerce. Barriers to trade in the form of differing—and sometimes, conflicting—country-by-country import/export rules and requirements can and do make it difficult for food businesses to get traction in international markets.

Food safety concerns are frequently cited by individual nations as underpinning the justification for their legislative acts and rule-making and for erecting trade barriers and other measures that have the impact of curtailing free trade. Unfortunately, in some cases, the science used to inform and bolster food safety policy-making is insufficient, inconsistent or contradictory, creating a roadblock to the promulgation of laws that have a clear and evident benefit to protecting public health.

Regrettably, say experts from a newly formed international scientific advisory group, due to unintentional or intentional restrictive legislative and regulatory measures that give rise to trade barriers, the ultimate result is that the global availability of safe food is curtailed.

'It is generally assumed around the world that food is safe,' says Huub Lelieveld, the group's co-chair and retired senior technologist with Netherlands-based food and personal care product manufacturer Unilever. 'Food must be safe, for its intended use for human consumption, but food safety and regulatory measures should not unnecessarily hamper the availability of human food. Yet, this situation can exist as a result of differences in food safety regulations and related legislative measures between nations.'

The differences in food safety regulations and legislation

between countries also trigger a red light to the advances offered by science and technology, adds co-chair Larry Keener, general manager of International Product Safety Consultants, based in Seattle in the US. He notes that although many food companies throughout the world have contributed significantly to research and development (R&D) efforts to improve food safety technologies, industry is understandably hesitant to apply newly developed capabilities on an international scale in an uncertain, maze-like regulatory environment.

'A food company does not want to incur the staggering costs of a foodborne illness outbreak associated with its products, including potential legal liability, the costs of recalling product and damage to the brand or company's reputation that results in loss of consumer confidence and decreased sales,' says Mr Keener. 'But neither does a business want to invite increased overheads, unnecessary expenditure or bear the economic brunt of investing in new food safety technology that is recognised by the regulatory author-

'What is needed are globally agreed protocols and a system to ensure that those protocols are followed accurately'

ities in some target markets and not in others.'

In an attempt to eliminate these hurdles, a network of scientific organisations under the leadership of Messrs Lelieveld and Keener has launched a global initiative to facilitate harmonisation of food safety regulations and legislation. The objective is to discuss, globally, the scientific issues that buttress the decisions made by individual governments and international regulatory bodies in order to achieve global consensus on the science of food regulations and legislation to ensure the global availability of

safe and wholesome food products for all consumers.

The Global Harmonisation Initiative (GHI) Working Group anticipates that elimination of such regulatory differences will also make it more attractive for the private sector to invest in food safety R&D, consequently strengthening the competitiveness of each nation's food industry and of the industries supplying the food sector.

Harmonising global regulations, says the group, will facilitate the application of new technologies, encouraging the food industry to invest in new tools to ensure better safety and quality for consumers.

On November 30, Mr Lelieveld, Mr Keener and other noted GHI Working Group members will present the Food Safety session 'International Harmonisation of Food Safety Legislation', from 10:30 am - 12:00 pm at Fi Europe/Food Safety & Hygiene 2005 (see programme on page 77). Featured panelists are Dr. Servè H.W. Notermans, current vice-chair scientific panel on Biological hazards of the European Food

Safety Authority (EFSA); Prof Dr Heinz-Dieter Isengard, head of the University of Hohenheim Institute of Food Technology, Germany; and Dr Martin B. Cole, director, National Centre for Food Safety Technology, Illinois Institute of Technology, USA, and chairman of the International Commission for the Microbiological Specifications for Food (ICMSF).

Food scientists drive change

In 2004, the International Division of the Institute of Food Technologists (IFT) and the European Federation of Food Science and Technology (EFFoST), in cooperation with Food Safety Magazine and Elsevier Science, launched the Global Harmonisation Initiative to try to eliminate differences in food safety regulations and legislation. Soon, many other organisations joined this working group, including the International Union of Food Science and Technology (IUFOST), the Federation of European Microbiological Societies (FEMS), the Food Chemistry Division of the European Association for Chemical and Molecular Sciences (EuCheMS) and the European Hygienic Engineering and Design Group (EHEDG).

The need for such a group was clear, comments Mr Lelieveld. 'We know there exist undue barriers to free trade that masquerade as food safety protections, and that these must be eliminated. This situation can exist as a result of differences in food safety regulations and related legislative measures between nations. Hardly anyone is to blame as food regulations have a very long history of having been drawn up as a response to food safety incidents.'

For example, he says, the Pure Food and the Meat Inspection Acts in the US were the direct response by the US government to food safety failures or concerns about the integrity of the country's food supply. Moreover, and perhaps more perplexing, these developments occurred in a time when food analyses were by far less sensitive and accurate as they are with today's methods. Zero, for example, in 1954 for a pesticide

residue or hormone residue is not the same zero as it is today.

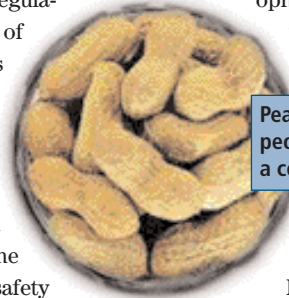
Peanuts are a staple part of the diets for billions of people around the world, whereas for thousands, they are a constant threat of anaphylaxis

residue or hormone residue is not the same zero as it is today.

Mr Lelieveld explains: 'Here then, is the essence of most conflicts: In those times, it was usually accepted that the food product should not contain substances that may have an adverse effect on health because of toxicity or the presence pathogenic microbes. Consequently, progress in analytical science has decided what concentrations of what substance are accepted, or the detection level. Historically, our abilities in detection tend to trend downward with improvement in methods and hence, with time.'

'Food safety regulations promulgated and passed based solely on method's capability have resulted in the careless application of such regulations to the detriment of commerce and the consuming public,' he continues. 'For 500 years we've known that toxicity is a matter of concentration. Many compounds are essential for good health in certain concentrations while toxic in another higher concentration.'

However, consumers increasingly prefer food without chemical





2005 GHI DRAFT CHARTER

The goal of the initiative is to ensure the global availability of safe and wholesome food products for all consumers. To achieve this, undue barriers to free trade that masquerade as food safety protections must be vanquished. Such barriers include differences in regulations and legislation between countries globally. The international scientific community must therefore work towards achieving global consensus on the science underpinning food regulations and legislation. This will be achieved through attainment of the following objectives:

1. Identifying relevant scientific organisations;
2. Inviting and encouraging the participation of these scientific societies in the global harmonisation initiative and inviting their members to join in this activity in their field of expertise;
3. Identifying relevant non-scientific stakeholders
4. Establishing effective communication between non-scientific and scientific organisations
5. Inviting all stakeholders (organisations and individuals) to identify and submit key issues requiring attention
6. Prioritising key issues with the subsequent formation of working groups to draft white papers or consensus statements regarding the scientific validity of these issues
7. Steering working groups to assess the best available evidence and discuss their findings with the scientific community, working towards building consensus
8. Publishing results on a per issue basis in journals, magazines and newspapers
9. Publishing collections of resulting consensus statements in book form
10. Presenting results and participating in appropriate conferences
11. Making results available to all stakeholders, particularly those responsible for developing or amending regulations and legislation, global communicators, risk managers and assessors

All of these will be done in an open, transparent manner, to avoid bias or the appearance of bias, political or otherwise.

preservatives, even if these preservatives have a long-time, proven safety record. The traditional alternative to chemical preservation is heat processing. The adverse effects of heat on nutrients are well known: many vitamins and antioxidants are degraded by heat. Heat, moreover, has an effect on flavour and taste; sometimes desirable but often not.

While in some cases, a heat treatment may be needed to destroy toxic components, in other cases, heat may produce toxic substances in the heated substrate; for example, the formation of acrylamides in foods where polysaccharides are heated in the presence of asparagine.

Much research has been done to meet consumer demands for safe, fresh, minimally processed foods, and with some modicum of success, adds Mr Keener. 'Novel technologies that exert little or no effect on the nutrient content of foods have been developed and there are more in the pipeline. Differences in regulations between countries related to food safety provide expensive scaffolding that often hampers the introduction of novel ways of food processing and preservation.

'The outcomes of food scientists' attempts to meet consumer demands for healthier food are frequently thwarted because of differences in scientific methods, economic expediencies, political necessity or public health demands.'

One of the manifestations or consequences of this reality is adoption of the precautionary principle within the EU. In short, this principle requires the provision of objective scientific data for purposes of demonstrating food safety where the public health status of a substance has been called into question - whether or not there is a long history of the substance's safe use as food.

Mr Lelieveld says: 'It is not the intention of GHI to advocate carelessness or poor science in risk assessment. To the contrary, it is our position that any and all potential adverse effects that may have resulted from a new process should be subjected to the most careful scientific scrutiny. It is our view, however, that it is a waste of time and resources to require approval in several countries, each demanding similar data produced by different protocols. What are

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needed are globally agreed protocols and a system to ensure that those protocols are followed accurately. Once checked and perhaps double-checked, the results should apply universally.'

Mr Lelieveld and Mr Keener agree that organisations or individuals, despite proven safety, who make statements calling into question the safety of a process should be required to provide a sound scientific basis for their objection.

Publication of the results will make it more difficult to abuse science. By obtaining global scientific consensus on food related issues, it will be hard for antis to find scientists who are willing to support unjustified statements. It will also be hard to counter requests to governments for change in regulations if they are not based on sound scientific data. Decisions should be based on agreed risk/benefit analyses.

'Our intention is not to promote a "no" or "yes" for particular cases, but to carefully review available evidence to see whether or not a consensus statement on safety can be made,' says Mr Lelieveld. 'There may be issues where the "yes" or "no" depends on circumstances, for example, the method of use or the use by certain populations.

'For instance, lactose is a natural constituent of bovine milk. While for some populations lactose is a harmless energy source, for others it is a toxic substance. Likewise, peanuts are a staple part of the diets for billions of people around the world, whereas for thousands, they are a constant threat of anaphylaxis. In other cases there may be lack of evidence either way. In such cases, research to obtain such evidence will be proposed [by GHI].'

GHI's inventory of the differences in food safety legislation between countries and its efforts to build international scientific consensus on food issues to provide correct information for decision making to regulators and legislators worldwide is underway.

● INFORMATION

Website: www.globalharmonization.org

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