HACCP INTERNATIONAL FOOD SAFETY PROGRAMME CERTIFICATION

HACCP INTERNATIONAL

FOOD SAFETY BULLETIN

ISSUE 10 2015

ELPRESS
Setting the highest hygiene standard in entry control

PRODUCT CONTACT SURFACES
Our USA VP, Debby Newslow

SCREENING FOR ALLERGENS
Dr Tony Treloar – ELISA System

Elpress

Produced by HACCP International, a leading provider of food safety services - www.haccp-international.com
Only products that carry HACCP International certification are advertised in this bulletin.

Richard Mallett
European Director of
HACCP International

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eliminate the hazard - reduce the risk

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Welcome

to the 10th HACCP International Food Safety Bulletin.

Clive Withinshaw - Director, HACCP International

Reductio ad absurdum

It's a tough business – keeping food safe, that is – and even harder when having to battle with 'raw milk campaigners'.

There are many challenges with which food scientists struggle in keeping food borne illness and the risk to life under control. Even though many consumers still have trouble with nutritional and dietary choices, the fact is our food has never been safer.

HACCP International's tag line says, 'Eliminate the hazard – reduce the risk' is the creed by which we do our work. How frustrating, and even depressing, it is to see certain sectors of the community actively campaigning to introduce more dangerous products into our food chain?

I recall a gag from the great Billy Connolly in which he asks, 'Who was the first person to milk a cow and what did he think he was doing?" But the fact is he, or she, did and we now produce more than 650 billion litres a year! Over the last 120 years, we've managed to eliminate almost all the risks associated with this wonderful but dangerous product only to see a campaign in place to 'introduce the hazard and increase the risk."

> "Who was the first person to milk a cow and what did he think he was doing?" (Billy Connolly)

As I understand it, the 'raw' milk campaigners see this as a choice matter allowing the 'enjoyment' of (scientifically) unproven and somewhat undefinable benefits - there being little or no flavour or nutritional rationale to the argument. With death as consequence - as has already occurred - it sits comfortably in the locker with freedom of choice for seat belts and gun ownership. This is one risk that governments, not food scientists, are obliged to keep under control and they have our full support.

That's the rant for this edition!

We are very pleased that many food businesses around the world are increasingly undertaking due diligence processes in selection non-food equipment and materials that have an impact on food safety or incidental food contact. While this is a requirement of most of the world's leading food safety schemes, it is only more recently that the risks from this quarter are becoming recognised and fully understood by food processors. Our scheme is aligned with the leading food safety schemes in offering independent third party confirmation of a product's fitness for purpose in our industry. Just in the last few months, many excellent products have achieved certification. Products from new applicants or extensions of certification have been issued to 3M, Bayer, Blucher, Elpress, Electrolux, Flowcrete, Hicare, SCA, Testo, Sumitomo, YoungSan and Yue Po Engineering in the last few months, joining a long list of companies whose certified products are in the 'world's best practice' category. These manufacturers have a couple of things in common - a recognition of the risks and, as a result, thoughtful design, excellent engineering and quality systems. They also appreciate that these products will be used in food handling and have kept that front of mind. Our certification process does see a significant number of applications failing which often prompts re-engineering or design. At the end of the day, those products which are certified have been through an extensive food safety evaluation and really do represent the very best. I encourage all readers to look for our mark on such products and understand the qualities it represents.

We are very pleased to see more activity with certification in The USA. Our new office in Orlando is now fully functional under the guiding hand of Debby Newslow. For those of you who are interested in our product certification scheme, and are based in the region, Debby and her team will be very pleased to help.

We enjoyed meeting a number of readers at the GFSI conference in Kuala Lumpur earlier this year and we hope to see many more at HOST in Milan – surely the best equipment gathering in the world.

Thanks for reading.

HACCP INTERNATIONAL FOOD SAFETY PROGRAMME CERTIFICATION

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"Beyond Food Safety"

By Richard Mallett,
European Director of HACCP International

The BRC Global Standard for Food Safety has, for the first time in its latest version (Issue 7 published January 2015), in addition to food safety management, considered issues that are not strictly related to food safety as we all know it. And for good reason, in the wake of "Horse-gate" which uncovered, very visibly, the global problem of food fraud, and also in the wake of the proportion of food recalls which are still initiated because of failure of labelling and pack controls.

Richard Mallett, European Director of HACCP International

In this edition of HACCP International Food Safety Bulletin we look at an overview of the main technical changes from Issue 6 to Issue 7 of The Standard. For full details, take a look at The Standard itself.

The main changes can be summarised as belonging to the following categories, all mandated by specific clauses within The Standard:-

- Supplier approval, which includes a need to have a system to approve food supplied by agents and brokers.
- Traceability, which requires visibility of the traceability of foods purchased from agents and brokers.
- A brand new section called Labelling and Pack Control to specify measures to reduce the number of product recalls caused by incorrect information being supplied on labels and packaging.
- Authenticity, which requires the food business to challenge the source and identity of raw materials to militate against economically, motivated food substitution.
- Claims and Chain of Custody Controls to prove that foods such as Organic, "Free-from" and of geographical or special status are what they say they are!

Agents, Brokers, approval and traceability

The practicality and convenience of buying a range of raw materials from brokers and agents, experts in the sourcing, procurement and resale of foods from around the world, cannot be disputed. But can you be totally sure of the source, identity and food safety management systems behind the foods you are buying? The Standard now requires that you consider Agents and Brokers in much the same way as you do direct suppliers. In other words they should be formally approved on the basis that the Agent or Broker can furnish you with information on the traceability, identity and food safety of foods, from each link in the supply chain to their operation, and then on to you! Certification of these operations to the BRC Agents and Brokers Standard is one way in which approval can be secured. Otherwise control can only be assured by audit, review and challenge of HACCP systems, traceability and GMP systems in place within the supply chain to the Broker, in much the same way as you would do, and should do, for direct suppliers who do not hold current certification to a GFSI benchmarked Standard. Incidentally the supplier approval process even for direct suppliers has changed to permit supplier questionnaires to be used only for low risk foods! And your annual supplier risk assessment must now include challenge of potential vulnerability (see below).

Labelling and pack control

A significant proportion of recalls are still the result of incorrect labelling or packaging, which, in the worst case, might fail to warn the consumer of the presence of allergens. The BRC has responded with a brand new, dedicated section within Section 6 of The Standard (Process Control) called, unsurprisingly, "Label and pack Control"! This section now demands a formal and recorded system for the correct allocation of packaging and labels to the packing area and a series of documented checks at start up and following changes of product to ensure that incorrect packaging and label is kept well away, to prevent its inadvertent use. The key task here is a review of the label to ensure that it is up to date and accurate. This section also brings in a need to check fail-safe's and alerts where on-line vision equipment is used for product labels and printing. This new section is still supported by the Section 5 (Product Control) sections on Product Labelling and Product Packaging requiring properly specified food contact packaging, and processes to verify ingredient and allergen information, together with instructions for use, storage, safe handling and validate claims.

Authenticity

The biggest change of all is not strictly related to food safety. It is related to food fraud. At a recent Cert-ID workshop called BRC Issue 7 "The Chain Reaction", it was demonstrated to the delegates that in fact food fraud is not new, despite what we may all think following "Horse-Gate" where horse and other non-declared meats were found in a range of food products within Europe. In fact the concept of food fraud is ancient – with evidence of "additives" to flour such as sawdust and alum. In 1872 Dr. Hassall, the pioneer investigator into food adulteration and the principal reformer in this vital area of health, demonstrated that half of the bread he examined had considerable quantities of alum. And that's just the tip of the medieval food fraud iceberg.

The fact is that no particular, specific standard was available or considered by the food industry to control this issue. So Issue 7 of the BRC Global Standard for Food Safety is welcome in this respect. Section 5.4 now requires a vulnerability assessment to be carried out and a process to be in place to access past, current and future (horizon scanning) threat to authenticity.

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The key to the vulnerability assessment was explained comprehensively by Cert-ID during their recent workshops. One must consider and assess the various root causes and means of economically motivated food substitution or replacement:-

- Low availability of raw material due to for instance crop disease, crop failure or even geo-political unrest in source areas.
- The ease with which a particular food can be substituted by another.
- The value of the raw material – the higher the value, the more likely it is to encourage the criminal activity of food fraud.
- The availability, accuracy and use of analytical methods to determine purity.
- The length of the supply chain – the more numerous the links, the more likely fraud will go undetected.
- The credit rating of the supplier – are they in significant financial difficulty and maybe tempted by food fraud?
- The geographical source of raw material – some geographical areas are more commonly associated with food fraud
- The use of unverified and unchallenged suppliers - which considerably increases risk of food fraud, especially in conjunction with number 5 above (length of supply chain).

Once information on risk has been established, based on these and other root causes, controls should then be proposed to reduce the risk of food fraud. This may be by considering controls such as, but not necessarily limited to:-

- Shortening the supply chain length.
- Demanding certificates of analysis of purity with each batch
- Full audit and/or certification of the supply chain
- Demonstrable and full traceability within each link of the supply chain

Above all the vulnerability assessment must be documented, along the lines of HACCP – what are my authenticity hazards, which are the most significant (and for what raw materials), and what controls should we implement to reduce the risk? How and when should we review and verify the information supporting our vulnerability risk assessment, the vulnerability hazards we have identified and the controls we have implemented?

Claims and Chain of Custody

In short The Standard requires that verification of specific provenance, origin, breed or varietal claims, assured status, GMO status and so forth is supported by appropriate certification or other appropriate means of documented verification. Clause 5.4.4 demands that facility must maintain purchasing records, traceability of raw material usage and final product packing records to substantiate any claims. Documented mass balance tests should take place at the frequency demanded by any specific scheme (for instance Organic Standard), or 6 monthly where no such frequency is stipulated.

The likelihood is that many food businesses are only just about now, nervously, getting to grips with these new requirements ahead of audits against Issue 7 which started on 1st July 2015. The principle however of audit against The Standard remains the same as it always has – make sure you are fully prepared, before the actual audit! In 3 years' time, I'm sure, we'll wonder what all the fuss was about!

Personal hygiene compliance: THE FIRST STEP!

Elpress

Controlling personnel access to food rooms

Exactly how significant is poor personal hygiene practice in outbreaks of food-borne and non-foodborne gastrointestinal illness? The answer to this can be found in the eFOSS (Electronic Foodborne and Non-foodborne Gastrointestinal Outbreak Surveillance System) Report of 2009. In 2009, the HPA eFOSS was launched and is purposely aligned to the requirements of the Zoonoses Directive 2003/99/EC [1]. This Directive requires that Member States investigate and report all foodborne outbreaks to the European Food Safety Authority (EFSA). This comprehensive collection of outbreak data provides an overview of foodborne and non-foodborne gastrointestinal outbreaks from 1992 onwards, tracks trends in foodborne disease and other zoonotic disease against interventions taken place, estimates source attribution of foodborne infections, and can be used for risk profiling and/or microbiological risk assessments on a local or national level.

Outbreak information from eFOSS is also provided to Government Departments and European Agencies to support public health policies and foodborne disease reduction strategies.

eFOSS report 2, Issued 2009 and updated May 2010 concluded that: poor hand wash facilities; poor personal hygiene; and infected food handlers were found to be contributory factors in 10%, 8% and 10% respectively of gastro-intestinal outbreaks. That's a total of 28% attributable to poor personal hygiene management standards, a key HACCP pre-requisite. These factors are estimated to have contributed to 170,000 cases of food poisoning per year at a cost to the food industry of £25,000,000 (US$38,000,000) per year.

The mandate for personal hygiene is quite clear within food safety regulations globally, but as an example, the European Food Hygiene Regulations EC 852/2004 Chapter 1 (General Requirements for Food Premises), clause 4, of Annex 2 is clear in its intent:-

An adequate number of washbasins is to be available, suitably located and designated for cleaning hands. Washbasins for cleaning hands are to be provided with hot and cold running water, materials for cleaning hands and for hygienic drying. Where necessary, the facilities for washing food are to be separate from the hand-washing facility.

Chapter 8 "Personal Hygiene" follows with:-

Every person working in a food-handling area is to maintain a high degree of personal cleanliness and is to wear suitable, clean and, where necessary, protective clothing.

No person suffering from, or being a carrier of a disease likely to be transmitted through food or afflicted, for example, with infected wounds, skin infections, sores or diarrhoea is to be permitted to handle food or enter any food-handling area in any capacity if there is any likelihood of direct or indirect contamination. Any person so affected and employed in a food business and who is likely to come into contact with food is to report immediately the illness or symptoms, and if possible their causes, to the food business operator.

As a response to both legislation and GFSI benchmarked Global Food Safety Standards, the modern food industry has developed high demands in terms of personal hygiene. One of the major risks in food production processes are humans, and in particular their personal hygiene transgressions, a fact supported by the eFOSS data. Despite an increase in automation in the food industry, humans are still playing a pivotal role in the production of food, with many tasks remaining "hands-on". This requires careful control of personal hygiene practices and strident efforts to ensure that all staff follow personal hygiene and handwashing procedures.

> Strident efforts are needed to ensure that all staff follow personal hygiene and handwashing procedures; this is where Elpress and their equipment can offer a reliable solution.

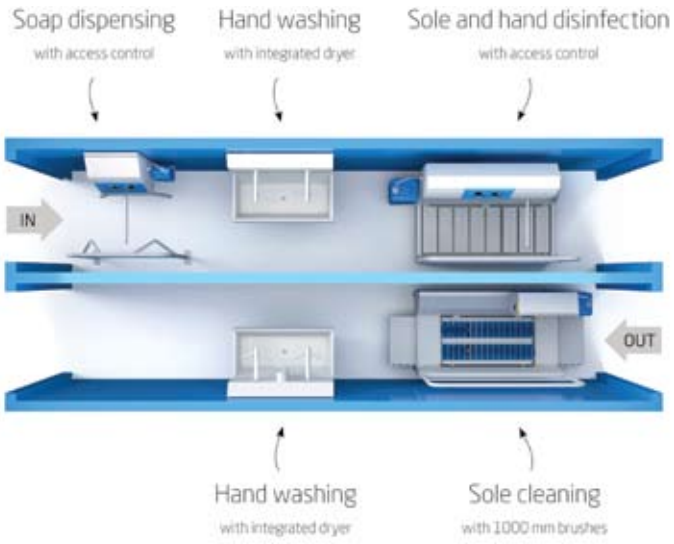
This is where Elpress and their equipment can offer a reliable solution in terms of risk control.

The Dutch based company, celebrating its 40th anniversary in 2016, has developed an outstanding range of hygiene equipment, enabling users and visitors to safely enter food production environment. Elpress' equipment effectively acts as a barrier system, making sure that no access is allowed before the hygiene steps are fulfilled. Effective personal hygiene includes steps that ensure that hands and soles and washed effectively, dried and sanitized. Studies have shown that washing, in combination with sanitizing is the best way to further reduce bacterial load.

"Obtaining HACCP International certification is an important step for us" explains Jannes Voss, General Sales Manager. "The certification implies that our products have independently been assessed and found to be safe for use in food production environments. The certificate is valid for virtually all our personal hygiene equipment, such as hygienic entrances, chemical dispensers, wash basins and sole cleaners."

Since its establishment in 1976, Elpress has been active in developing systems to improve hygiene within the food industry. "We currently offer a fully standardized range of products, into which all essential elements with regards to hygiene, quality, ergonomics and ease of use have all been integrated." Voss continues.

A typical layout of a hygienic area, can be found below:



Hygienic entrance

A reliable and experienced network of dealers represents Elpress in more than 40 countries worldwide. Elpress aims to put even more emphasis on their international ambition in the coming years, whilst maintaining their current level of innovation. "At this moment we are entering the last stage of our 3000 m2 plant extension in Boxmeer, The Netherlands; an extra production area as well as a completely new warehouse should enable us to serve our customers even better in the future." When being asked about further ambitions, Voss is convinced: "We want to set the standards in personal hygiene'.

More information: www.elpress.com

FROM OUR USA OFFICE

Understanding the role of HACCP International with "Product Contact Surfaces"

By Debby Newslow, Vice President Americas

It is so exciting to be part of the HACCP International Team, having the opportunity to represent this program in the Americas. Timing is everything and this is the perfect time to be able to provide this type of food safety related evaluation to the food industry. HACCP International's Certification is valuable, in that it, confirms the ability of equipment, materials, and services to support the integrity and safety of the food.

The production of "safe food" is paramount to everyone that grows, transports, manufactures, distributes, and/or serves a consumable product. HACCP International focuses its requirements, evaluation and decision on certification to those matters specifically to issues of food safety and suitability for use in the food industry.

Debby Newslow, Vice President - Americas, HACCP International

Food safety affects everyone. The World Health Organization (WHO) defines "safe food" as **"assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use".**

The Hazard Analysis Critical Control Point (HACCP) Programs for the control of food safety related hazards have been in existence dating back several years. The concept of "HACCP" was first introduced in the United States in 1961 for NASA's space program. NASA required food safety to be as close to 100% as possible for the food being sent into space for the astronauts. Dr. Howard Bauman of the Pillsbury Company first developed this process for NASA.

The concept of HACCP has evolved considerably since 1961. The process has always been based on 5 Preliminary Steps and 7 Principles known as the 12 steps of HACCP. The requirements of these 12 steps have become more comprehensive over the years. This is especially true in recent years with the application and acceptance of the GFSI approved schemes.

The Global Food Safety Initiative (GFSI) is a non-profit foundation, created under Belgian law in May 2000. GFSI benchmarks existing food standards against food safety criteria and also develops mechanisms to exchange information within the supply chain. This is done to raise consumer awareness and to review good retail practices.

Benchmarking is a "procedure by which a food safety-related scheme is compared to the GFSI Guidance Document:"

> *A food safety management scheme is 'recognized' by GFSI when it meets the internationally recognized minimum food safety requirements, developed by multi-stakeholders, which are set out in the GFSI Guidance Document. GFSI is not a scheme in itself, and neither does it carry out any accreditation or certification activities. (http://www.mygfsi.com/schemes-certification/overview.html).*

Examples of approved schemes include FSSC 22000, IFS, BRC and SQF. At this time, there are a total of 12 schemes approved. It is best to monitor the GFSI website (http://www.mygfsi.com) for the most current information.

The HACCP International Team understands the need to focus on the "non food" items. In my experience, I have found that one of the most misunderstood aspects of a Food Safety HACCP Program is the identification and inclusion of "product contact surfaces" in the hazard analysis.

> "Quality (food safety) is doing it right when no one else is looking" *Henry Ford*

As a link to the food chain, all materials going into the process, used in the process and exiting the process must be identified and described. Product Characteristic (raw materials, ingredients, product contact materials, and end product) must be defined and included in the hazard analysis (ISO 22000:2005 Section 7.3.3).

Product contact surfaces must be constructed from materials designed for food use. They must be impermeable and rust or corrosion free. (ISO 22002-1:2009 Section 8.3).

ISO 22000:2005 and ISO 22002-1:2009 make up part of the FSSC 22000:2009 food safety management system standard.

For the purpose of the food safety/HACCP programs, a product contact surface is defined as any surface that may come in direct contact with an exposed product. Examples would include piping, gaskets, agitators, conveyor belts, water used for cleaning, cleaning chemicals, gaskets, cleaning utensils (brushes, sponges, pads, etc.) and lubricants.

In other words, any item that either contacts the surface (i.e., cleaning chemical) or is the actual product surface (i.e.stainless steel) must be listed and evaluated for existing or potential hazards.

The following examples may enhance the understanding of this requirement:

Testo measuring instruments have a product contact surface and are certified by HACCP International.

Example 1: There are many types of equipment (i.e. copper), that are not generally approved as a food contact surface. Many foods are able to break down copper into a chemical that we would not want to consume.

Example 2: Stainless steel is thought of as an approved food contact surface; however, not all grades of stainless steel are approved. This is a perfect example of a food contact surface (either existing or a new installation) that must be confirmed food safe through further analysis. In addition, new stainless steel equipment must go through a "passivation process", which is a chemical reaction that forms a passive film of chromium oxide that protects against corrosion and rusting. "Passivation" is a much more complex project than just described, but used here as an example of what would arise during the hazard analysis of this product contact surface.

HACCP International's Bill DuBose, from our USA office with Bill Simos, MD, Asia Pacific at the SQF conference.

In developing a food safety HACCP program, many of us find it more effective to separate this requirement into "product contact surfaces" and "processing aids". A processing aid is defined as any item that may be used in the production of a product but is not actually an ingredient. Examples may be process enzymes, lubricants, steam, and ice. These items are added to the food for their technical or functional effect in the processing but are not actually ingredients (i.e. identified on the label). (Newslow. Food Safety Management Programs. CRC Press. 2013.)

I received a call a week ago from the president of a company that manufactures clean rooms. He has been working in the food industry for many years handling new construction and renovations. A potential customer recently asked him if his products were HACCP certified. No one had ever asked that before. Another client asked us to provide the names of some flooring companies that had their flooring materials HACCP certified. These types of requests are new to us but have been in the industry for many years. Why now? What is changing?

It is imperative as we move forward in the world of food safety to know that the products we are using are safe in the food manufacturing environment. It is exciting to experience first hand the certifications that the HACCP International team has been performing for years throughout the world.

Choose a product with the HACCP International seal. This represents the fact that it has been evaluated and deemed a safe item for use in the food industry.

HACCP International specifications include the evaluation of the use, manuals, the requirements for preventive maintenance and any other aspect that may affect the use of an item as related to the safety of the food product. For example, a cleaning brush may be evaluated for its function. It must also be evaluated for its construction quality to make sure the bristles won't fall out while using it. How are the bristles adhered to the brushes? Staples would not be acceptable. These could become dislodged and end up in the product. If the brushes are approved, they will have the HACCP International Mark.

An astute purchasing agent of a food company that is searching for the best brush should choose a product with the HACCP International Seal. This represents the fact that it has been evaluated and deemed a safe item for use in the food industry. A brush without this pre-evaluation would enter the process and the food safety team or their trained designee would have the responsibility to perform an extensive hazard analysis of the product prior to its use to ensure that it would not introduce any hazards or potential hazards into the operation. Keep in mind that the requirement is for all product contact surfaces and processing aids to be included in the hazard analysis. The organization that requires the HACCP International Seal on as many items as possible, not only enhances the effectiveness of their food safety HACCP program, but also saves its food safety team time with their hazard analysis. The evaluations done by HACCP International not only include specific items, but also include chemicals (i.e. pesticides) and services (i.e. pest control).

As a food safety professional, I am thankful to HACCP International for providing such a service. In the old days, we learned from our mistakes; however, in today's world we can not afford to make the mistakes or end up having a recall of our end product. We must have effective support from specialist such as HACCP International to aid in keeping our consumers safe.

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Electrolux Professional:
the first HACCP International certified laundry manufacturer, globally

Developed through analysis of the needs and challenges of laundry operators across the globe, the Electrolux Line 5000 has been honoured with HACCP International Certification.

Traditionally food manufacturing factories have had to outsource their laundry to guarantee cleanliness, but the certification of the Electrolux Professional Line 5000 range has provided the option to invest in an on premises laundry with complete peace of mind.

But will an in-house laundry work, or is it even permitted if you operate to a Global Food Safety Standard? Well, take a leading GFSI (Global Food Safety Initiative) Food Safety Standard, in this case the BRC Global Standard for Food Safety, and look at the requirements for laundry control. It may surprise some to learn that the use of an outside, contracted laundry is not mandatory. Certainly there are expert contract laundries in the field, many indeed using the HACCP International Certified Electrolux Line 5000 range of laundering equipment. But there is a choice for those who wish to consider setting up an in-house laundry. The key clause within the aforementioned Standard (reproduced in part) is this:

Electrolux Professional Line 5000. Designed by experts. Inspired by you.

7.4.3 Laundering of protective clothing shall take place by an approved contracted or in-house laundry using defined criteria to validate the effectiveness of the laundering process. The laundry must operate procedures which ensure:

- Adequate segregation between dirty and cleaned clothes
- Effective cleaning of the protective clothing
- Protective clothing for high risk or high care areas is commercially sterile following the washing and drying process
- Cleaned clothes are supplied protected from contamination until use (e.g. by the use of covers or bags)

For those operating high risk or high care production zones in particular, where segregation between dirty and clean, in all aspects of the operation, is paramount then a barrier laundry system such as that offered by Electrolux within the Barrier Range would be a wise choice. This effectively forms a double door, interlocked washing system which allows a truly segregated dirty and clean laundry side to operate.

Segregation can be implemented of course through procedure and local containment measures as well, with receptacles identified for the containment of dirty and clean clothing, effective personal hygiene measures and training to prevent undue cross contamination. Taking this approach opens up the entire Electrolux Line 500 model range for potential use, not only for the low risk food industry but for those operating high risk/high care too.

"Effective" cleaning, to quote the BRC clause, means the assurance of a machine, wash programme and detergent which is capable of cleaning to remove all visible soiling. The demand of the clause within the BRC Standard to ensure that clothing for high risk/high care areas is commercially sterile requires programmes for washing and drying with an easy to set, effective, in-built temperature / time profile for a disinfectant wash, within the controller. The true HACCP Practitioner is also well aware of the terms verification and validation! Not only is the food business with an in-house laundry likely to validate laundered garments with swabs or contact plates, but they also seek verification of the process. Most would jump at the chance of being able to operate a management system which feeds process data remotely to their computer and even alarms where laundering processes fail or are interrupted unexpectedly! The Electrolux Line 5000 is offered with just such a system. Called CMIS, this system provides key process control and process validation information to a remote PC terminal. Quality or Technical personnel, at remote desks, can log in to interrogate all machines connected to CMIS. The system will show each stage of the process and the key parameters associated with

Electrolux delivers cost effective workwear hygiene at the highest level

each stage, such as times and temperatures. It will also very clearly flag up on-screen where key specified parameters such as time or temperature are not reached. It can even report if users attempt to "skip through" certain laundering stages as programmed. This is an effective control against the consequences of error in use and misuse.

But ensuring a safe laundering process that supports one's food safety management system, doesn't just stop at temperature! In the food industry, physical contamination through laundry is indirect but parts such as nuts, bolts and springs that arise from the workings of the machine can enter food with potentially serious consequences. The operation of the HACCP pre-requisite of housekeeping and sanitation also requires that all equipment, even those in ancillary areas, are easy to maintain and clean, including a need to be able to inspect and clean under machines, where unseen dirt often builds up! The design criteria and materials of manufacture of the Line 500 met this requirement admirably.

"Following on the successful experience in the UK and Ireland, we are very proud that the HACCP International Certification has been now extended globally," says Eugenio Filoni, Global Segment Manager for Special on Premises Laundries, at Electrolux Professional. "The global HACCP International Certification is a unique recognition for Electrolux Professional, which confirms the company's commitment to ensure the highest hygiene levels along the entire food chain and demonstrates how our solutions can really make a genuine difference in people's safety, health and life, hence meeting the expectations of a changing world."

Laundry equipment is now taking a glamorous part in the world of food safety! It can have a crucial role in contamination control, playing its part in preventing outbreaks and illness across the globe.

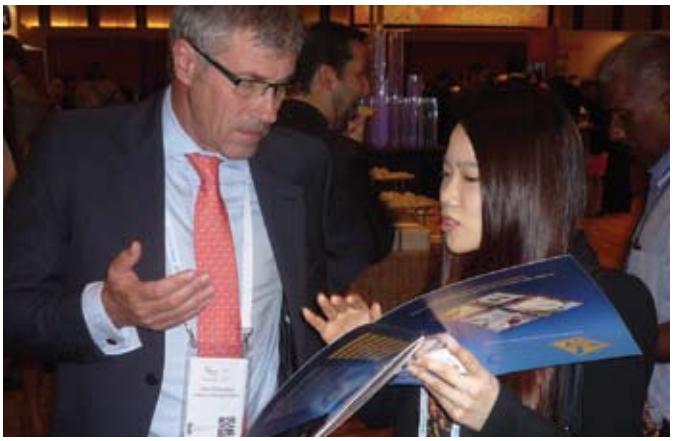
For more information visit
www.electrolux.com/professional

Thinking of you
Electrolux

A SHARED RESPONSIBILITY

The Consumer Goods Forum (CGF) welcomed 915 delegates from 45 countries to their Global Food Safety Conference in Kuala Lumpur, Malaysia. The annual event, now in its 14th year was held in Asia for the first time, establishing itself as the leading business driven food safety event of the year.

The programme is planned by the CGF's long-standing "Global Food Safety Initiative (GFSI)" whose collaborative approach brings together international food safety experts from the entire supply chain at Technical Working Group and Stakeholder meetings, conferences and regional events. They share knowledge and promote a harmonised approach with a shared aim of "safe food for consumers everywhere."



Clive Withinshaw discusses food safety risks with a GFSI delegate.

The GFSI participants believe that food safety is a shared responsibility. Their aim is to create linkages with key organisations and regulators, build confidence in third party certification, build capacity and expand geographic engagement. Many members have committed to recognizing the equivalence of the rigorous GFSI benchmarking process which enables aspiring food safety schemes to work within the requirements of the Guidance Document.

The conference, chaired by GFSI Chairman, Cenk Gurol of Japanese retailer Aeon, included a range of Asian speakers who gave delegates a new look at how the work of GFSI is truly having a global impact. On the second day there was an announcement from Noraini Binti Dato' Mahd Othman, Senior Director of the Malaysian Ministry of Health. She announced that the Malaysian Government would be nationalising their Sustainable Supplier Development Program which uses the GFSI Global Markets Programme to help small and less developed businesses get started on the road to certification.

HACCP INTERNATIONAL AT 2015 GFSI CONFERENCE IN MALAYSIA

HACCP International was pleased to be in attendance, as well as an exhibitor, at this year's GFSI commence in Malaysia. Clive Withinshaw (Director) and Bill Simos, (MD, Asia Pacific) found the conference to be very informative and well attended. Said Clive Withinshaw." This is the one conference in the year where the 'big hitters' in Food Safety and quality gather in one location – no other event seems to bring the decision makers of the world together in one place." The main topics were those of food security and food fraud. As well as that, emphasis was also placed on collaboration particularly between commercial organisations, governments and NGOs in addressing the world's three main food issues - food availability, food safety and food wastage. Said Bill Simos, "It was pleasing to see suppliers of key non-food products and services, such as Bayer, Mettler Toledo and Ecolab, getting involved in the event. Their products are vital and have a significant impact on food safety. Many of us look forward to meeting again at the same event in 2016."

Clive Withinshaw (l), Lucien Meunier of Bayer (C) and Bill Simos (r) at the 2015 GFSI Conference

Food Certification – a glimpse into the future

By Richard Werran, Managing Director,
Cert ID Europe Ltd, Cert ID Asia Pvt Ltd

Since the launch of the BRC Standard in 1998 it has, in those 17 years, gone through an enormous amount of change - a metamorphosis. With each iteration, it has accommodated key learnings from events and challenges confronting the food industry at that time. Few would doubt the BRC Standard has been, and will continue to be, a powerful catalyst for change and continuous improvement within the food industry. Which has seen more change in the last 20 years than in the previous 2,000 years. Quite remarkable! The BRC Standard rightly deserves its place as a global food safety standard.

Up to issue 6, the scheme focussed on food safety. However, an examination of the BRC Global Standard for Food Safety Issue 7 sees the introduction of a new aspect - Vulnerability Assessments. Curiously, this aspect has nothing to do with food safety at all. Vulnerability Assessments put attention upon the potential for food fraud and food fraud is by and large motivated by monetary gain.

In the future, we will look back at Issue 7 and identify this iteration as a pivotal moment in the historical growth and development of the standard that quite subtly changed the standard's food safety audit requirement into a business audit. Certified organisations would be well advised to both view and approach Issue 7 from this interesting perspective.

Today, the standard is by anyone's judgement a heavy duty document running to 118 pages. Prescriptively, the depth and breadth of Standard presents auditors and auditees alike with an enormous, time sensitive and pressured task. Food certification standards are, by and large, misunderstood. They set out to mitigate risk and thus facilitate business but the formal disciplines that certification schemes introduce within a food business are often viewed, by today's food industry as a speed bump and, at worst, a straightjacket getting in the way of good business.

The Standard's 'one size fit's all', approach harks back to the late 90's and looks increasingly outmoded and outdated because the increasingly diverse needs of individual food manufacturers are different - especially as standards become global. Food standards struggle to accommodate the very different situations that might be presented by a mega food production site as compared to a micro food producer. That being the case, we have reached the point where it makes sense to remodel certification to meet the needs of today's fast and dynamic paced food industry in the 21st century. The key, in future, will be how certification standards can be proportionate, appropriate, focused and yet flexible.

Cert ID, as a certification body that listens to its clients, have detected voices, with increasing volume, within the food industry that are calling for all food standard owners to get back to food safety basics, create a 'core' standard focussed entirely upon HACCP and directly related food safety requirements and supporting services. With this foundation in place, the auditee might then select from a menu of 'add-ons' that meet their current and anticipated needs. Some of these add-on modules could well be retailer/brand driven or even retailer specific. The auditee is then able to add extension modules at any time, contingent upon core food safety certification being maintained. The extension modules may be renewed or allowed to expire or replaced by other extension modules according to the changing and evolving business needs of the auditee's business.

In 1998, the internet was still in its ascendance. The fast reliable broadband speeds of today could only be dreamt of and they will become even faster. This opens an opportunity for food certification schemes to permit certification bodies to remotely access and audit the auditee's documented quality management system, procedures and records via a secure log on username and password provided by the auditee. This means time consuming on-site documentation reviews can be minimised because they can be completed at any time prior to the audit. This, in turn, then allows the auditor to have more plant time focussing more upon the food manufacturing process itself and, above all, connecting with those involved in the execution of systems and procedures and less on documentation.

Food safety certification schemes like any other business are competitive. Consequently, food certification scheme owners tend to find ways to leapfrog over one another in seeking competitive advantage and market preference. With the introduction of requirements outside of food safety comes the requirement for tomorrow's auditors to acquire new skills. Food fraud will require them to be very much more commercially savvy than they might be currently. Furthermore, departments within food businesses that, to date, have not been involved with, nor exposed to, a food safety audit, such as Buying and HR, will inevitably be drawn into audit scope to complete what is today very much a business audit.

Richard Werran, Managing Director of Cert ID Europe Ltd and, Cert ID Asia Pvt Ltd

Having qualified in Food Technology in 1979, Richard worked with Unigate Foods, Cow & Gate, Hercules Ltd (food stabilizers) and Lucas Meyer (UK) Ltd (food emulsifiers) of which he became Managing Director in 1996.

Since then, Richard started a new food ingredients business, designing and building the only food grade stainless steel soya lecithin processing plant in the UK. The plant was designed to receive and process Cert ID Non-GMO soya lecithin in bulk from Brazil and India with full traceability and certification into the European market for the first time. The plant also featured an innovative inline microbiological kill step.

Richard joined Cert ID in 2002, Cert ID are the acknowledged leaders in Non-GMO certification and are also accredited by UKAS to deliver BRC Global Standard for Food Safety, BRC Agents & Brokers and ISO22000 certification.

host Milano
Equipment Coffee Food
39th International Hospitality Exhibition
October 23_27 2015 fieramilano

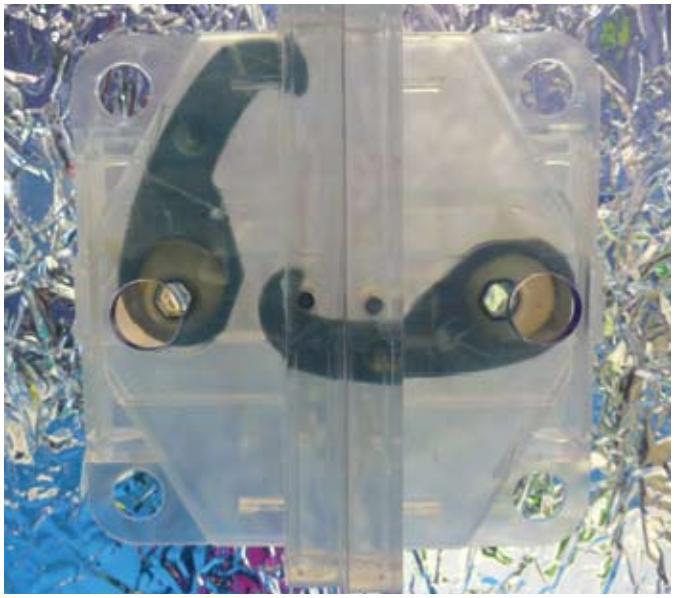
It's HOST time again –

Milan, October 2015
Misa on show at Europe's leading equipment exhibition.

Milan plays host to 'HOST once again with the 2015 exhibition coming up in October. This is undoubtedly the leading exhibition of 'HoReCa' in Europe and sees the world's leading equipment, materials and service providers (more than 1,700 of them from 50 countries) displaying their products in 12 halls to more than 150,000 visitors! Milan is a great venue and HOST visitors always have a good time after the work is finished.

Many HACCP International certified products will be on display and HACCP International staff will be in attendance, supporting exhibitors and available to answer questions. One prominent participant at HOST will be Misa, the highly regarded suppliers of industrial cool rooms. Misa's product are not only recognised as being of the highest quality - well designed, economic and reliable, they are also designed with food-safety front of mind.

One example of their conscious efforts to address food safety is demonstrated with the unique panel locking system that eliminates panel gaps and the consequent food safety risks. This thinking is reflected in everything Misa manufacture and is further evidenced in their use of fully formed, curved corner pieces, the unique, vacuum based, insulation foam fill system that ensures uniform and efficient insulation properties and their preparedness to subject their products to a HACCP International's evaluation process.



Misa's patented failsafe fastener system eliminates panel gaps and food safety risks.

HACCP International's European team look forward to seeing you at HOST 2015.

BLÜCHER release new hygienic drainage concept for food production

Food safety is at the top of the agenda at food production companies around the world. Examples of listeria and other bacteria spread through condensate, HVAC and drainage systems have made hygiene in buildings an essential issue in food safety.

In the US, the Centers for Disease Control and Prevention estimate that 1,600 cases of Listeriosis, infections with Listeria monocytogenes, are reported annually, 260 result in death. Last year, Denmark experienced the worst Listeria outbreak in history. The outbreak was related to 41 illnesses and 17 deaths.

A number of factors caused the extent of the Danish outbreak, but in the end, the Listeria was traced back to a manufacturer of seasoned meat. Analyses showed that Listeria was present in the drain and that it was spread to the remaining facility via steam from hot water going down the drain. A study conducted by Dr Jasdeep Saini at Kansas State University has showed that within 8 hours Listeria can spread from a drain to areas 1 to 5 feet outside the drain.

Hygienic design principles for food factories

At the European Hygienic Engineering & Design Group (EHEDG), the focus on hygiene in buildings has resulted in a new set of guidelines on hygienic design principles for food factories. BLÜCHER, a manufacturer of stainless steel drainage systems, is a long-standing member of EHEDG and was part of the working group behind the new guidelines.

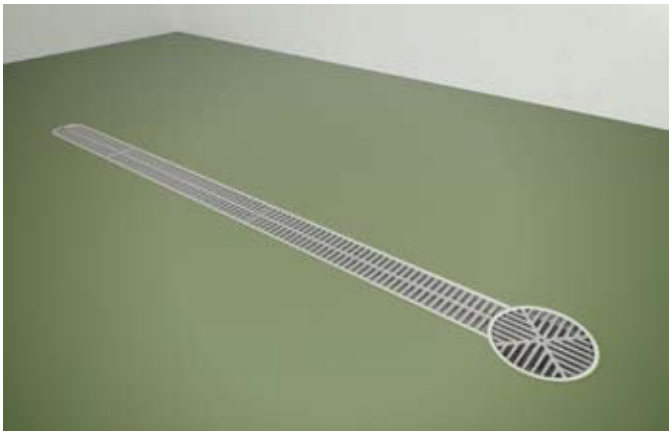
Solid waste is kept out of the sewage system by the filter basket or channel filter.

"The importance of the drain has often been neglected in relation to hygiene. However, a poorly designed drain can harbour bacteria and be a source of contamination if it is not properly cleaned", says Palle Madsbjerg, Export Manager at BLÜCHER. "Basically, we know two things. Gravity ensures that most dirt and water ends up on the floor at some point, and bacteria grows in humid conditions, such as around drains", he continues.

Cutting corners in drainage design

This January, BLÜCHER released HygienicPro, a drainage concept to improve the hygienic conditions in drainage design. The design of HygienicPro is based on the EHEDG guidelines and developed in close co-operation with BLÜCHER's clients.

"We noticed a movement in the market, as food safety became the top priority for our clients. Additionally, an increase in hygienic control means that more and more food production companies work with a technical as well as a hygienic guideline in their building and equipment specifications", Palle Madsbjerg explains. "Our key message is to do it right the first time. Changes to the drainage system after the installation can be a costly and time-consuming affair".



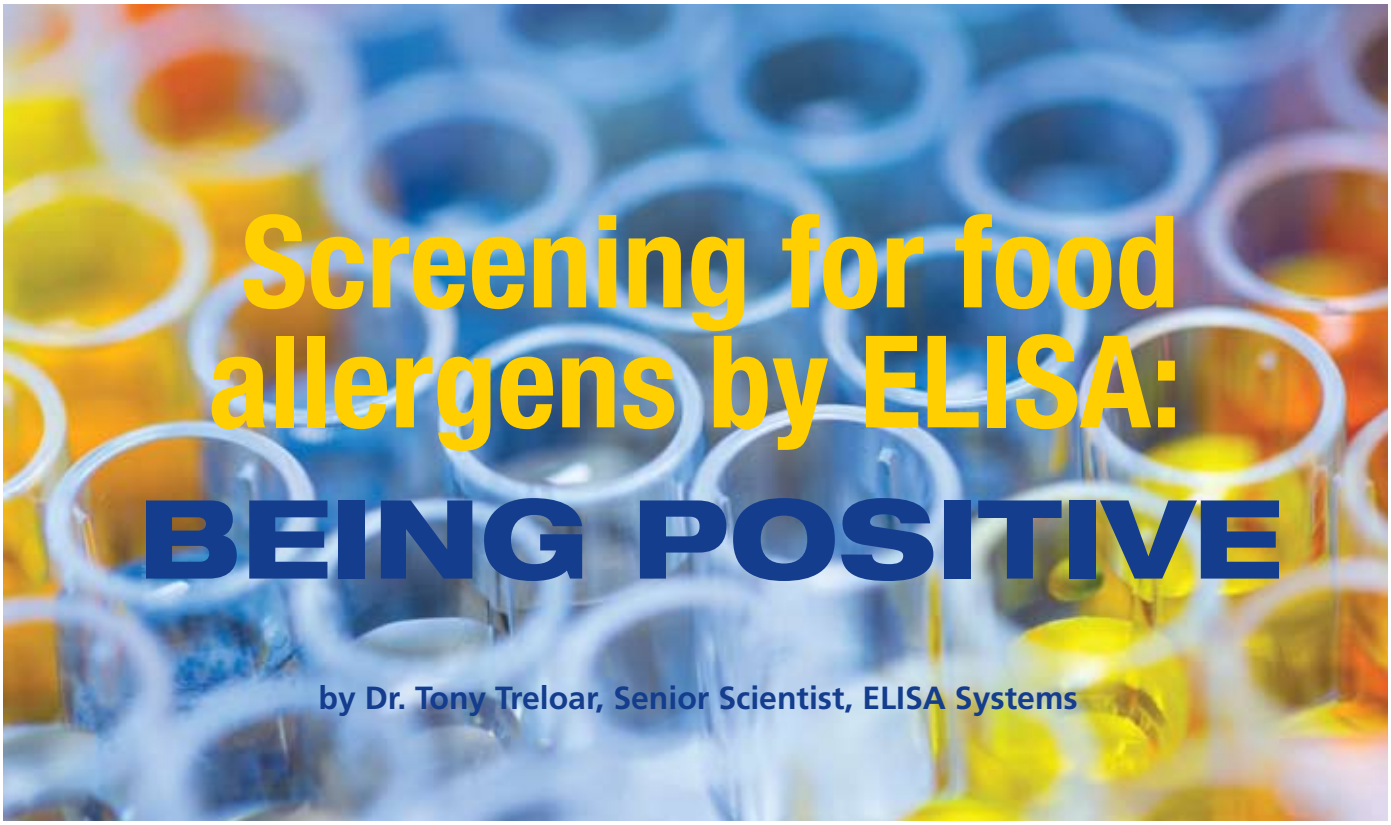
The installed channel can be customised to the client's needs and connected to the outlet box at different angles.

The HygienicPro drainage channel was designed without corners or cavities that might harbour bacteria. The corners are all rounded, which makes it easy to remove waste and residues from the floor area. The channel geometry ensures an efficient flow to the outlet area. This keeps the channel clean and flushes solid waste to the outlet even with little water flow. This self-cleaning ability also saves time in the cleaning process. The HygienicPro was also designed to reduce the need to empty filter baskets during production, which is one of the main causes of production slowdowns. The size of the filter basket can be customised to the client's need and because it can hold more waste, it can be left inside while the cleaning process takes place.

HACCP International certification and EHEDG membership

In addition to its membership of EHEDG, BLÜCHER is the first drainage system manufacturer to hold HACCP (Hazard Analysis and Critical Control Point) International certification. The certification means that BLÜCHER products support the integrity and safety of food as demanded by industry expectations, legislation and GFSI (Global Food Safety Initiative) endorsed standards and that the products are compatible with HACCP based food safety programmes and contribute to food safety.

For more information, contact
BLÜCHER
Tel. +45 99 92 08 00
mail@blucher.com
www.blucher.com



Screening for food allergens by ELISA: BEING POSITIVE

by Dr. Tony Treloar, Senior Scientist, ELISA Systems

Allergic reactions to food are potentially fatal. To protect allergic consumers, many leading government agencies have prescribed that foods containing any of 10 common allergens must contain mandatory warning statements. Other jurisdictions have similar requirements which mandate the labelling of some or all of these allergens plus some others. By way of example, a table summarising the declarable allergens in some major markets is shown in the table (shown at end of article).

Dr. Tony Treloar
Senior Scientist, ELISA Systems

Failure to declare allergens accounts for approximately one third of recalls in OECD countries. The cost of recalls is high, not just in the loss of stock but also in terms of reputation. Hence, allergen management should be an important part of a food producer's overall HACCP strategy. Part of this management strategy involves the regular testing of final products and ingredients for potential contaminants. It may also involve the testing of wash solutions and surface swabs to determine the efficacy of cleaning regimens.

ELISA is the predominant screening method for the detection of food allergens. This method uses antibodies which bind to marker proteins which are specific for the allergenic foods being tested. ELISAs are also commonly used in medical diagnostic and environmental testing. ELISAs are simple to perform, require little sophisticated equipment and are relatively inexpensive. Samples are easy to prepare and may be assayed in batches allowing for moderately high throughput. With the use of calibrated standards they can be quantified. This makes ELISA an ideal screening assay for food allergens.

Lateral flow assays are becoming increasingly popular for the detection of food allergens. These assays are often referred to as dipstick tests, the most well known example being the home pregnancy test. Like the ELISA, lateral flow assays are immunoassays involving the binding of a protein to an antibody. They are simpler and quicker than an ELISA but only give qualitative results. They are often favoured in an on-site facility where results in real time may be necessary.

PCR assays are also used for food allergen measurement. These are indirect assays as they measure the presence of the DNA of the food in question, while the protein is the allergenic component. PCR assays are suitable for foods where the whole food is used and thus contains the genetic material e.g. peanuts or tree nuts. PCR assays are not available for milk or egg which contain little genetic material and are of limited usefulness for targets such as soy, where protein extracts, which may contain little or no DNA, are commonly used as ingredients.

While testing using lateral flow assay and PCR becomes more common, ELISA remains the predominant method used for food allergen testing. Testing for food allergens by ELISA uses kits which are produced by a number of kit manufacturers. These kits contain all of the reagents prepared for use and are suitable to be used by technicians with limited laboratory skills and experience. Before being released for use these kits undergo extensive development and validation to ensure they are suitable for use with a wide range of foods. However, the diversity and complexity of food is such that it is impossible to guarantee that a kit will yield consistent and reproducible results with all samples.

If practical, testing laboratories should perform validation studies to ensure that the kit works well with the samples they are testing. This is especially recommended for on-site laboratories which routinely test only a limited number of sample types. This involves determining the limit of detection in the sample, and spiking recovery studies. However, this is not always possible for third party testing laboratories which routinely assay samples of many different types, unless they are analysing a sample type on an ongoing basis. In these laboratories it is important to confirm positive results to ensure that they are not false positives.

ELISA is the predominant screening method for the detection of food allergens. This method uses antibodies which bind to marker proteins which are specific for the allergenic foods being tested.

The overwhelming majority of positive results obtained in ELISA are caused by contamination of the food of interest. However, false positive results can be caused by two things: cross-reactivity of the antibodies used in the assay; or non-specific binding of assay components. Cross-reactivity occurs because the antibodies used in the assays will bind to proteins which are similar to the protein targets in the food of interest. Some examples of cross-reactivity which have been encountered are apricot kernels with almond (these are perhaps surprisingly closely related, both are species of the genus Prunus), goat's milk with cow's milk, and cockroaches with crustaceans. In some instances this protects the allergic consumer as some are also allergic to the cross-reacting food. During kit development kit producers will screen a panel of foods for cross-reactivity concentrating on closely-related foods. This process should limit the instances of false positives due to cross-reactivity to only a few instances in closely related foods.

False positive results can also happen because of non-specific binding caused by matrix effects. Here, the food being tested exerts a physical effect which causes the binding of assay components without the food of interest being present. Components which bind proteins and plastics are the most likely to cause problems with non-specific binding. An example of this is caramel food colouring. A recently published paper showed that caramel food colouring caused non-specific binding in a range of assays. Caramel food colouring was the likely culprit in the non-specific binding seen in a range of balsamic vinegar samples. In a selection of 8 balsamic vinegar samples which were bought in local supermarkets, all but one tested positive in a number of ELISAs for different foods. The sample which tested negative was much lighter in colour than the other samples as it did not contain caramel food colouring amongst its ingredients.

All positive results should be confirmed before any action is taken. Even when the test has been validated in house, it is still wise to confirm the result using a second test to ensure that the positive result is not due to an error in the performance of the assay or in sampling. If the test hasn't been validated in house, further confirmation assays may be required to rule out a false positive. Confirmation using a PCR assay if available is ideal, otherwise a confirmation ELISA using a kit from a different manufacturer may be performed.

If further confirmation is required then an assay of a dilution series of the positive sample may be warranted. True positive results will show the expected relationship between allergen concentration and dilution, i.e. when the sample concentration is halved the amount of allergen measured is also halved (within error). With false positive samples caused by either cross-reactivity or non-specific binding, the measured allergen levels do not decrease in line with the dilution of the sample. This assay, sometimes referred to as a "dilution to extinction" assay gives a good indication as to whether a measured result is a true or false positive and is often the best (and quickest) confirmation test available.

If false positive results are suspected it is a good idea to contact the kit manufacturer. This allows the kit manufacturer to investigate the cause of the problem and possibly rectify it if it is due to a kit performance issue. It is also valuable information which can be passed on to other kit users who experience similar problems with that sample type.

ELISA remains the primary screening tool for the presence of food allergens due to their sensitivity, specificity and convenience of use. However, while the vast majority of positive results are due to the food of interest being present, false positive results are possible. The consequences of a positive result for an allergen test can be very serious. Hence, it is important that all positive results are confirmed before any action is taken.

Declarable food allergens in 5 major regions worldwide

	Australia/NZ	USA	Canada	EU	Japan
Egg	✓	✓	✓	✓	✓
Milk	✓	✓	✓	✓	✓
Fish	✓	✓	✓	✓	✓
Shellfish	✓	✓	✓	✓	
Tree Nuts	✓	✓	✓	✓	
Peanuts	✓	✓	✓	✓	✓
Wheat	✓	✓	✓	✓	✓
Soy	✓	✓	✓	✓	
Celery				✓	
Mustard			✓	✓	
Sulfites	✓		✓	✓	
Sesame	✓		✓	✓	
Buckwheat					✓
Lupin				✓	
Mollusc				✓	

HOT LINKS

Yo, juz trine ta feed boiz
http://firstwefeast.com/eat/the-25-greatest-food-lyrics-in-rap/

Food Rap Yo. With gems like 'Wrapped cheese in a rubber band and call it gouda.", and "Come in the hood flippin' the chicken-and-broccoli Timbs", the all time best food raps (wraps) are here ! Trying hard to do my own but can't think of what rhymes with 'food scientist'. I'll keep working on it.

Happy Food
http://www.prevention.com/food/food-remedies/foods-proven-boost-mood-and-happiness

10 foods to make you happy as a clam ! How happy are clams you may well ask…… well the ones used for the first recipie, clam chowder are probably not too happy…. But it all looks very good.

Worst Restaurants in the World
http://www.cookingchanneltv.com/how-to/worst-restaurants.html

OK Simple. Three words. Don't eat here.

Restaurant Sandwich Boards
http://www.refinedguy.com/2013/02/21/awesome-restaurant-sandwich-board-signs/

Whilst we are on restaurants, here are some examples of sandwich boards that are guaranteed to raise the interest (or otherwise) of potential customers that are strolling by. 'Soup of the day; tequila', yep, make mine a double.

Bacteria Selfies
http://www.bacteriainphotos.com/

Not really selfies as the little guys didn't actually take the pic, but as close as you can get. Photos of colonies, streak plates, electron micrographs. See what the enemy looks like…..

It's all about Cheese
www.cheese.com

Too many cheeses! Too many tastes, smells and appearances to possibly remember…Help is at hand. Explore the world's greatest resource site for cheese to find out about different kinds of cheeses from around the world..... over 1750 specialty cheeses from 74 countries!!

Star Pest Control

a HACCP International certified service provider – leads the way in Singapore's battle with rodents

In recent months, Star Pest Control Pte Ltd, under the direction of its well-known leadership team of Director, Mr Azmi Bin Mohamad and his General Manager, Mr Bernard Chan, has been in the limelight of the Singapore news media and newspapers. (see some of the news cuttings on Star Pest website).

They can really pride themselves as being one of the most effective 'rat catchers', or as they are known locally, The Pied Pipers of Singapore.

Behind this high profile event, Star Pest Control , Singapore, has quietly become the leading service provider in this important market sector that operates to world's best practice as Singapore businesses do in so many sectors. Established in 1998, it has always strived to meet the demanding needs of the food industry and its commitment to this industry sector was crowned in 2013 with certification by HACCP International. With its further adherence to The National Environment Agency requirements, Star Pest has become the leading supplier to shopping malls and food establishments.

Many of the clients interviewed attested to the efficient, effective and food safe methods employed by Star Pest. They were also very happy with the documentation which ensured their facilities operated in accordance with the HACCP protocols required by the world' leading food safety schemes.

HACCP International wishes to congratulate Star Pest on the successful outcome of their recent audit and reevaluation which sees their certification extended for a further 24 months.

For further information:
Email enquiry@starpest.sg
www.starpest.sg

FACTERIA Clostridium

The genus Clostridium refers to a group of anaerobic, spore forming rod shaped bacteria. Of the 32 main species, only two have strong implications in food-borne illness; C. botulinum and C. perfringens. Two other species, C. difficile and C. Tetani are human pathogens causing respectively, colitis and tetanus.

C. perfringens was once known as C. Welchii and is one of the most common food borne illnesses. (The bacteria is also responsible for Gas Gangrene in wounds). Illness is caused by toxin production in the gut when large numbers of the viable cells are consumed. An infective dose is though to be about 1,000,000 + orgs per gram. The illness is characterised by a rapid onset (about 10 hours) and rapid recovery (about 24 hours) from symptoms such as diarrhea and stomach cramps. Vomiting is rare from the illness.

The bacteria is widely spread in nature and commonly carried in the guts of warm blooded animals and insects, soil, sludge and rotting plant material. The most common contamination scenario is where spores of the bacteria survive a cooking process only to germinate if the food is held for extended periods and cooled too slowly prior to consumption. Germinated cells will rapidly multiply to a level of infective dose if the correct conditions for growth exist. Meats, poultry and sauce/gravies are the most commonly implicated foods and the illness is so common it is thought that 100% of the adult population have suffered from at least one incidence of C. perfringens poisoning.

C. botulinum produces botulin toxin, held to be the most toxic substance known to man. 500grams of the material could kill half the world's population! (LD50 of approximately 1 nanogram/Kg). It is also the active substance in Botox treatments!

Initially isolated from hams implicated in an outbreak of botulism (botulin poisoning), the organism was originally thought to be most common in sausage and fermented meat production ('botulus' is sausage in Latin). In the food industry today, low to mid acid foods under anaerobic conditions (such as some canned foods) are at risk of the growth of this bacteria….typically again, through the germination of spores surviving the cooking process. There has been some recent concerns about gourmet-type oil-preserved foods (such as garlic in olive oil) being susceptible to the growth of this bacteria.

C. botulinum can be isolated from soils in various regions of Australia although outbreaks of botulism are thankfully rare as mortality rates are high from the illness. There have been no reported (confirmed) case in Australia since 1991. Symptoms include blurred vision, loss of speech and swallowing ability, weakened respiratory functions and subsequent death. Onset of illness is typically 18 – 36 hours.

Due to the serious nature of the organism, thermal processing procedures in the food industry for products such as canned foods are built around the destruction of this bacteria in low to mid acid foods.

The toxin has also been considered for use as a biological warfare weapon due to it's extreme toxicity. Research was conducted by Nazi Germany in this regard and it is rumored to have been used in a failed assassination attempt against Fidel Castro by the CIA by coating his cigars in the substance.

FACT

This product is food safe

HACCP INTERNATIONAL FOOD SAFETY PROGRAMME CERTIFICATION

The HACCP International certification and endorsement process supports organisations achieving food safety excellence in non-food products, material, consumables and services that are commonly used in the food industry. HACCP International's Certification is particularly aimed at those organisations that are required to supply 'food safe', 'compliant' or 'approved' products and services to their food safety conscious customers.

Such products or services are usually those that have incidental food contact or might significantly impact food safety in their application. Food safety schemes, particularly the leading ones which are GFSI endorsed, require food businesses to subject many such products to an auditable 'due diligence' process and the HACCP International certification is designed to meet this. This independent assessment and verification of fitness for purpose offers assurance to the buyer or user that food safety protocols and processes will not be compromised in using such a product or service correctly, that such a product is 'fit for purpose' and that it makes a contribution to food safety in its application.

Certified products have been rigorously evaluated by HACCP International's food technologists and, in their expert estimation, are manufactured and designed to meet all the appropriate food safety standards. In performing the assessment, they look for 'world's best' in terms of food safety features and characteristics. The food technologists undertaking these reviews, as well as being highly qualified, also have extensive industry and manufacturing experience. Only products that are assessed as meeting the criteria can carry the mark. Quite often, organisations are required to make modifications to the product, design, delivery, literature or recommendations in order to comply. This process is therefore particularly useful for products that are designed for multiple industrial applications.

There are 10 key components reviewed in this process and certified products need to demonstrate their conformance in all the relevant facets. The ten key components are:

1. *Materials and specifications*
2. *Toxicity*
3. *Contamination risks*
4. *Ease of cleaning*
5. *Operating instructions*
6. *Consequences of error*
7. *Batch and process controls*
8. *Claims*
9. *Packaging and labelling*
10. *Contribution to food safety*

In addition to these, service providers are also assessed, through an audit process, in terms of:

- HACCP and food safety awareness
- Food Safety Training
- Documentation and reporting
- On site service delivery
- Standard Operating Procedures

HACCP International is accredited by JAS-ANZ as a conformity assessment body. JAS-ANZ is a member of The International Accreditation Forum (IAF). HACCP International operates an accredited product certification scheme, titled "Food Safety Assurance", as well as other product certification schemes.

The companies listed on page 25 carry a range of excellent food safe products or services certified and endorsed by HACCP International. For more details, please visit www.haccp-international.com or email info@haccp-international.com. The contact numbers for our regional offices can be found on page 3 of this bulletin.

www.haccp-international.com

CATERING AND FOOD SERVICE EQUIPMENT	CHEF INOX (I) HOSHIZAKI (I) LANCER CORPORATION MACKIES ASIA PACIFIC (I) S.P.M. DRINK SYSTEMS S.r.l. (I)
CLEANING EQUIPMENT	CARLISLE CLEANING EQUIPMENT (I) CHAMPION MACHINERY HK LTD (I) GLOBAL CHAMPION (Shanghai) LTD (I) GOLDSTEIN ESWOOD COMMERCIAL OATES SABCO
CLEANING CHEMICALS KITCHEN MATERIALS AND SANITATION PRODUCTS	3M (I) BAXX (I) BIOZONE SCIENTIFIC (I) BUNZL CHAMPION CHEMICALS LTD CLOROX (I) CONCEPT LABORATORIES DEB GROUP (I) EDCO (EDGAR EDMONDSON) KIMBERLY-CLARK PROFESSIONAL (I) LALAN SAFETY CARE OATES PREMIUM PRODUCT SOLUTIONS (I) SCA HYGIENE/TORK
CLEANING & MAINTENANCE SERVICES TO THE FOOD INDUSTRY	ACE FILTERS INTERNATIONAL AERIS HYGIENE SERVICES (I) CHALLENGER CLEANING SERVICES INITIAL HYGIENE INTEGRATED PREMISES SERVICES ISS HYGIENE SERVICES LOTUS FILTERS
CLOTHING, DISPOSABLE GLOVES AND PROTECTIVE WEAR	KIMBERLY-CLARK PROFESSIONAL (I) LALAN GLOVES SAFETYCARE LIVINGSTONE INTERNATIONAL PARAMOUNT SAFETY PRODUCTS PRO PAC PACKAGING RCR INTERNATIONAL STEELDRILL WORKWEAR & GLOVES
FACILITY FIXTURES, FLOORING AND FIT OUT	ALTRO SAFETY FLOORING & WALLING (I) ASSA ABLOY ENTRANCE SYSTEMS (I) BLUCHER (I) BLUE SCOPE STEEL (I) CARONA GROUP DEFLECTA CRETE DYSON AIRBLADE (I) ELECTROLUX (I) ELPRESS (I) FLOWCRETE (I) GENERAL MAT COMPANY HALTON (I) GIF ACTIVEVENT (I) MANTOVA NUPLEX
FACILITY FIXTURES, FLOORING AND FIT OUT CONTINUED	PHILIPS LIGHTING ROXSET SILIKAL (I) THORN LIGHTING (I) UCRETE-BASF (I) UNIVERSAL FOOD SERVICE DESIGN YOUNGSAN (I) YUE PO ENGINEERING (I)
LABELS - FOOD GRADE	LABEL POWER OMEGA LABELS W W WEDDERBURN
MAGNETS	MAGNATTACK GLOBAL (I)
MANUFACTURING EQUIPMENT COMPONENTS & CONSUMABLES	AURORA PROCESS SOLUTIONS BIOCOTE (I) CRC INDUSTRIES ENMIN (I) ITW POLYMERS & FLUIDS LANOTEC (I) SICK SMC PNEUMATICS (I) WURTH
PEST CONTROL EQUIPMENT AND MATERIALS	BAITSAFE(I) BASF (I) BAYER (I) BELL LABORATORIES INC (I) ECOLAB PEST FREE AUSTRALIA (I) STARKEY PRODUCTS (I) SUMITOMO SYNGENTA WEEPA PRODUCTS
PEST CONTROL SERVICES	AMALGAMATED PEST CONTROL CPM PEST & HYGIENE SERVICES ECOLAB FLICK ANTICIMEX HICARE ORIGIN EXTERMINATORS RENTOKIL SCIENTIFIC PEST MANAGEMENT STAR PEST CONTROL
REFRIGERATION, GOVERNORS, EQUIPMENT AND DATA SYSTEMS	AERIS HYGIENE SERVICES (I) CAREL (I) DIGINOL E-CUBE SOLUTIONS MISA (I)
STORAGE EQUIPMENT & PACKING MATERIAL	NETPAK RCR INTERNATIONAL SCHUETZ
THERMOMETERS, PH METERS AND DATA LOGGERS	3M TESTO (I)

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