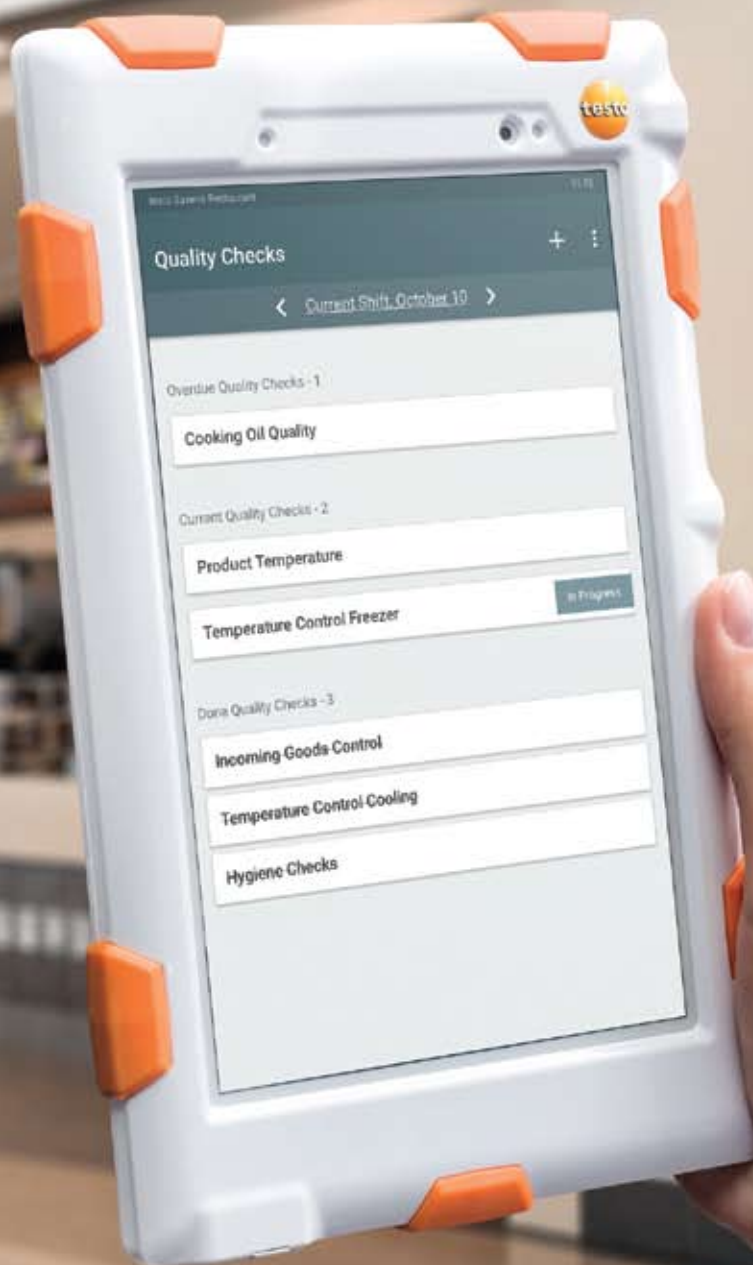


testo Saveris

A complete and effective system for food safety



Pest Management

New best practice standard for the food industry launched by HACCP International

The Juggler

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From HACCP

to TACCP and VACCP

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Welcome

to the 12th HACCP International Bulletin



Clive Withinshaw,
Director, HACCP International

Pest control in food premises has been a major feature of our activity at HACCP International in the last few years and that has culminated with the release of our new standard – The HACCP International Pest Management Standard – written specifically for pest control services delivered to food businesses operating to GFSI endorsed schemes and HACCP based food safety programmes. This is a world's first and finally brings to industry a standard to help in managing pest management contractors as they undertake a very important component of a food business HACCP programme. It has been governed by the requirements of ISO17007 in its development and overseen by an independent committee of interested parties represented by food manufacturing, retailing, pest management companies and food safety auditors.

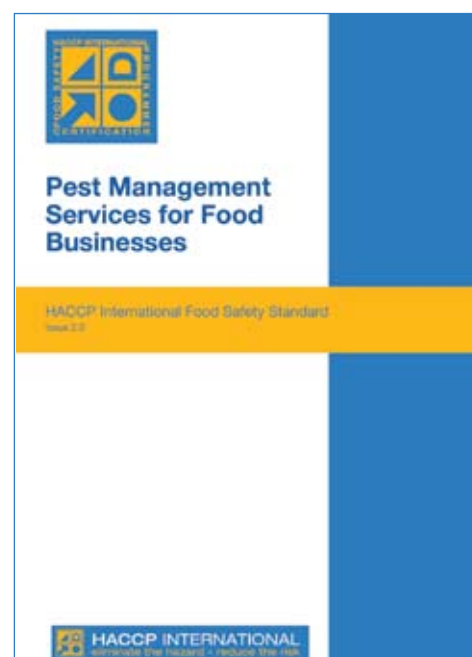
It is not a guideline, nor is it an adaptation of an inappropriate food safety standard. It is designed specifically for that service in our industry.

We have had 'codes of practice' and 'guidelines' in the past – however they are simply that – guidelines. A guideline has been described as being like kindly parental advice to teenage children on a night out – definitely not to be observed if it proves inconvenient! A standard forces measurement, audit and conformance. This standard sets a high bar while meeting all the requirements of the world leading food safety schemes...and what gets measured gets done!

Statistical analysis of the world's leading food safety schemes has shown pest control as an area with very high levels of non-conformance and risk – be that from the pest activity itself or the methodology, chemicals or devices used in the control process. This standard will be a useful tool for food businesses in setting expectations as well as for pest management companies, certified thereto, who can then demonstrate an ability to meet the requirements through a strict audit process.

A number of pest management companies are certified by HACCP International and their compliance to this best practice standard allows them

to demonstrate their commitment to food businesses and prove their ability in this important function. They are to be commended for that – and their food industry clients should take notice. See what they are doing by downloading the standard, at no cost, from our website and any of our offices are happy to answer questions on it.



To download a free copy of the HACCP International Pest Management Standard, visit the tools/download page of www.haccp-international.com

Activity in our offices around the world has been intense since the new year and while it is usually centred around our main offices in Europe, North America, Hong Kong and Australia, we have recently been evaluating some excellent food safe products and food safe equipment from The Middle East, South America, Africa and India. While a couple of the world's manufacturing sources still present quality issues, the playing field is being gradually levelled and I am particularly pleased to see our mark used more widely in a geographical sense. Be opened minded, good design and food safety innovation can come from anywhere!

I do hope you enjoy this issue – let us know if you want to add a word in the next one. ❀

HACCP INTERNATIONAL PROGRAMME CERTIFICATION

For more information on any article in this magazine or to submit editorial or a comment please email to ifsb@haccp.com.au

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Automated quality management for
restaurant chains. The complete
digital solution testo Saveris Restaurant.

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The *testo Saveris Restaurant* complete solution promises **safety, compliance and efficiency.**

Food quality and safety are crucial factors when it comes to success and failure in restaurant chains. The market is fiercely competitive, customers are choosy and legal regulations are unyielding. But how are we to meet these challenges and ensure comprehensive quality management when the tools available are all too often inefficient? The measuring technology specialist Testo has identified this problem and has developed the *testo Saveris Restaurant* complete digital solution.

Customers in restaurant chains are demanding. They trust a brand's promises. They expect the taste of a burger, wonton or pizza to be just as good in Melbourne as it is in Mumbai, and the preparation to happen just as fast in Minnesota as it does in Maastricht.

Major challenges and the wrong tools

Restaurant chains are reliant on efficient processes, target-oriented analyses and standard-compliant documentation to remain competitive and inspire customers. However, until now there have only been inadequate and predominantly manual methods and tools to manage processes, analyses and documents. These tools and methods have a number of disadvantages.

They are prone to human error: There is high staff turnover in most outlets in the restaurant chain sector. New employees have to be trained in complex processes and regulations in a very short time. Laborious measuring technology, possible language barriers, complicated quality manuals and regularly changing offers make this situation even more difficult.



The measurement values from data loggers and measurement probes are transferred to the Control Unit.

The Control Unit allows efficient work thanks to its guided processes, check lists, alarms and stored correction measures.

If a customer is disappointed on any occasion, the whole brand can be damaged due to the error made by one single restaurant. Because customers see all the restaurants of a brand as a single entity, they do not generally direct their discontent at the individual restaurant via social media, but at the whole brand. This means there is the possibility of an isolated food scandal in any restaurant in a chain weakening the brand's reputation or even a company's share price.

This situation is further exacerbated by a dynamic area of tension arising from legal regulations and regulatory standards, the pressures of cost and of competition and changing market requirements.

They entail too much paperwork: Quality manuals are the basis of quality management in restaurant chains. They are generally paper-based. However, paper has serious disadvantages: it is unhygienic, awkward to handle and offers no protection against forgeries. Piles of paper quickly become unwieldy and it is virtually impossible to analyze the information they contain.

They cost time and money: Paper chaos and cumbersome measurement methods cost time and money. The effort that has to be made in terms of training and error correction would add greater value if invested in the preparation and sale of meals.

The example of cooking oil shows how the right measuring technology influences a restaurant's profits: regular measurement of the oil prevents the cooking oil from being changed too early or too late. And that can reduce cooking oil consumption by up to 20%.

They are hard to update: Updates in the quality manual can only be implemented internationally by headquarters in a time-consuming way. This can present a problem, especially in terms of short-term changes. And even if all restaurants have received the appropriate information, there is no guarantee that adjustments that may be needed locally are process-compliant. Nor is it possible for headquarters to monitor compliance with the regulations, or to measure their success, without putting in further effort.

Restaurant chains therefore face a paradigm shift: the requirements for their business model constantly increase as globalization and digitalization progress. However, the ways and means of meeting these challenges are still stuck in the last century.



testo Saveris Restaurant converts quality handbooks into software processes, monitors temperatures automatically, and offers comprehensive analysis and reporting possibilities.

The solution: testo Saveris Restaurant

testo Saveris Restaurant aims to make work easier for restaurant chains, with the complete solution digitizing both quality assurance and compliance observance which provides a more efficient and economical structure.

testo Saveris Restaurant makes quite specific promises:

- Conversion of the paper-based quality manual to software processes
- Customization of quality manuals to conditions in individual restaurants
- Measurement or coverage of all a restaurant's relevant measurement parameters and quality controls
- Fast analysis of all quality parameters
- Mapping of corrective actions when limit values or processes are violated
- Roll-out of the software-based quality manual to any number of restaurants at the touch of a button.

testo Saveris Restaurant was developed by Testo SE & Co. KGaA – since 1957, one of the world's leading manufacturers of measuring solutions for quality assurance in the food sector. Thermometers, pH measuring instruments, cooking oil testers and data loggers from Testo measure across the whole food flow and are part of the standard equipment for food producers, restaurants, commercial kitchens and catering businesses.

Measuring technology, software and services

The testo Saveris Restaurant software means paper-based quality manuals are converted to software processes, updated centrally and distributed to all connected restaurants by headquarters at the touch of a button. The software-based quality manual is tailored to the individual, restaurant-specific conditions on site. Analysis and reporting functions are also available.

Managers in the restaurant and at headquarters can manage and document all measuring points and processes that are relevant to quality via tablet, smartphone or PC. In the event of specific limit values or process steps being violated, the system immediately gives a warning via the control unit and by e-mail or SMS. The intuitive corrective action system makes it easy for employees to respond appropriately.

All of a restaurant's crucial measurement parameters (e.g. cooking oil quality, temperature) are measured using reliable and modular sensor technology. The design of the system's measuring technology components is interesting: the universal handle for measuring technology can be connected to any one of the robust measuring probes in seconds. Readings are transmitted wirelessly to a handheld control unit with one click. The system can also incorporate WiFi data loggers for automated monitoring of conditions in storage areas and coolrooms.

Testo's experts work with customers to provide customised configuration of software and measuring technology on site.

testo Saveris Restaurant commissioning is supported by training of customers' staff. When the system is in operation, Testo provides troubleshooting, maintenance and calibration services in all-inclusive, worry-free service packages. The scope of the services is defined by individual customer requirements.

The testo Saveris Restaurant complete digital solution makes the work of quality managers in restaurant chains easier in three ways:

- There is transparent integration of corporate and legal regulations into workflows – it is easier to ensure compliance.
- Food preparation is safer and quality controls are more efficiently carried out – that improves quality.
- There is automatic monitoring of refrigerated and freezer rooms, along with the associated equipment. In addition, quality manuals no longer need to be printed off and distributed – that reduces costs. ❄

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The mark of confidence

Food safety doesn't just concern what we put in our mouths. It also involves a range of non-food products that are used in the production process. Food & Beverage Industry News caught up with Clive Withinshaw, Director of HACCP International, to discuss best practice in this area.



Food & Beverage Industry News: We see the HACCP Australia and HACCP International mark on an increasing number of products. Can you tell me something about it? What does it represent and how does it benefit food companies?

Clive Withinshaw: HACCP International is a food safety and food science company which provides a variety of services including food safety and Non-GMO auditing, consulting and product certification.

In answer to your question, HACCP Australia (with its overseas arm, HACCP International) operates a product certification scheme called 'Food Safe Equipment, Materials and Services'. This is aimed particularly at non-food products which are used by the food industry and have incidental food contact or a significant impact on food safety or proper operation of a food safety management system.

The world's leading HACCP and food safety schemes and quality systems - particularly those endorsed by the Global Food Safety Initiative (GFSI) - have developed rapidly over the last 15 years. They are very demanding and have high expectations concerning all facets of food safety.

In the early days they rightly concentrated on ingredient risks. That expanded to include packaging and logistics and they now encompass the risks that come from plant and equipment.

The world's best food safety schemes have recognised and are emphasising the fact that many of today's recalls are caused, not by ingredients or process, but by physical and chemical contaminants.

Essentially, food businesses now have an obligation to mitigate the risk from this source with an auditable due diligence process. Provided they have the necessary skills, they can do this themselves. Alternatively, they can rely on 3rd party certification.

This latter option is becoming more popular because the risk analysis isn't easy and the industry has an expectation that suppliers be involved in the process.

Essentially our scheme is designed to meet that due diligence requirement and provide both the buyer and seller with confidence as to the product's fitness for purpose.

Often the suppliers of these key products supply multiple markets. They too need assurance that the products that they supply to this specialist food sector are appropriate. I'm talking about things like kitchen wipes, lubricants, cleaning and pesticide chemicals, flooring and lighting. Fine they might be, but 'fine' in an engineering shed is not necessarily 'fine' in a food plant.

F&B: How does the evaluation process work?

CW: There are a number of international certifications that address individual characteristics, such as food contact

material or cleanability, as stand-alone criteria.

Ours is different in that we apply a risk analysis and have 10 key criteria that need to be satisfied prior to certification. In addition, we look at toxicity, batch and quality control, consequence of error, labelling, instructions and claims. Each product needs to pass each criterion and it has to make a contribution to food safety.



Poor lighting design can lead to uncleanable surfaces, pest harbourages and debris falling into food products.

F&B: Who does the evaluation and where?

CW: HACCP International employ a number of highly experienced and qualified food scientists - in Europe, America, Asia and Australasia - who are devoted to this scheme.

Depending upon the nature of the product or service, we will examine the product itself as well as, where necessary, the quality system that supports it and the on-site performance. Products continue to be evaluated after certification and service providers are audited. It can be an extensive process and can be demanding on the product.

F&B: What is the pass/fail rate?

CW: Many of the larger companies do manufacture really good products. It is no surprise to me that the more expensive and better designed and made of these have the least problems. These people have invested in food safety.

Others struggle. I would estimate that no more than 50 per cent of applicants pass first time. However, they do often re-engineer. That is great to see and shows a commitment to our industry. In some sectors failure rates can be higher.

F&B: Can you give me an example?

CW: Lighting is a good one. Many food businesses are very aware of the possible foreign body contamination from lighting products – historically there has been a risk of falling nuts and bolts (or of course glass) over production zones.

The lighting industry has addressed glass but we now see many products with heat dissipating design which makes them impossible to clean and a great pest harbourage. So instead of glass falling into our food, we now have dead insects!

The makers of lights that do carry our mark, such as **Thorn** and **Zumtobel**, have really thought about their application in the food industry.

F&B: What about the standards?

CW: We have a number of both public and proprietary standards against which products are evaluated and expectations for a vast range of products which have been developed over the last 15 years. It has been a significant investment. HACCP International is a JAS-ANZ accredited product certifier and all our systems meet the requirements of ISO 17065 (the standards for product certification).

We have just released a new standard titled 'Pest Management Services for Food Businesses'. Hundreds of hours have gone into its development governed by an impartial committee of stakeholders comprising retailers, food safety auditors, food processors and pest managers.

It is a world first in publically available standards for this sector. There are many 'guidelines' but our industry isn't keen on 'guidelines'. 'It is or it isn't' is what we like!

It is available from our website at no charge and gives the food industry a really useful tool as well as an understanding as to what pest management companies that carry our mark have been audited against. It is also designed to capture all the requirements of all the international best practice and GFSI standards.

F&B: Is your scheme popular overseas? If so, where and why?

CW: We now undertake more product certification business outside Australasia than we do within. We have staff and offices in Hong Kong, Singapore, the UK and now in the US.

It's great that an Australian company has joined the ranks of exporters in a sector which isn't one of, what I call, the '4C' club – carbon, cattle, crops and cabernet! Australia is a world leader in agriculture and food, and it is no surprise that the scheme has its origins here in Australia, one of the world's centres of excellence in food and food science.

While there are a number of international schemes, ours seems to have become very popular in certain markets. Among other reasons, I think this is because of the holistic nature of the certification and the alignment with best practice standards.

In Europe, for example, food contact products need, among other things, EU1935 compliance. But that in itself only addresses the material, not the design. Our scheme obviously requires the same but so much more. Furthermore, it is conducted in a way that the QA department in a food business would expect.

F&B: Can you give me some examples of products and what you look for?

CW: Anything that has an impact on food safety but particularly those that have incidental contact or present a

great risk.

Gloves are a good example. I am of the school that would rather my food was handled by a clean hand than a dirty glove, but if it is to be handled by a clean glove, we need to know what that clean glove is made of.

There are some really nasty gloves out there made from totally unacceptable material. A thin slice of the food handler's flesh in my sandwich would be only slightly less palatable than certain glove material we have come across!

Kimberly Clark, by example make some excellent products in this area. Others are listed on our website. If they are just slightly more expensive– there's a reason.

Pest management chemicals are an unavoidable material that all food businesses need to some extent. Our certification ensures that they are all food-safe and fit for purpose.

There can be a temptation for controllers to use cheaper (or what they might call 'more effective') chemicals. Our certification mark ensures that this can be controlled.

The certification not only covers the product but also such things as the application method, instructions, quality control and allergens. **BASF, Bayer, Lodi Group, Sumitomo** and **Syngenta** are examples of manufacturers which have products that are particularly appropriate for the food market.

Our certification not only examines such products but also determines in which 'zones' they are appropriate. 'Primary Food Contact' or 'Splash and Spill' zones, for example, are indicated on the certification.

Flooring and walling is another product group we commonly see. Everybody knows that mistakes in these can be really expensive in terms of fit out and disruption. Our evaluation process can really help industry specifiers when selecting a food safe surfaces and hardware. **Altro, Blucher, Flowcrete, Sika, Silikal, Stonhard** and **Ucrete** come to mind. Once again, there are others on our site which have all invested in the food industry's needs.

F&B: Who should those in the industry contact if they want to know more about the certification and how you do things?

CW: We really encourage food safety and quality managers to talk to us about certified products – especially when they are making purchasing decisions or if they need to know what we have looked at or how we did the evaluation.

They can usually speak to the evaluation scientist directly and, while much of the information we hold is confidential, we can usually satisfy technical enquiries. That can be really useful for a QA or HACCP Manager.

A really effective, auditable, due diligence process is now an absolute for food businesses operating to world's best practice food safety standards. Our scheme delivers precisely this.

I did hear of a production director of a large international food processors who said, "If it doesn't have that mark on it – you better have the facts and my express permission to bring it in otherwise".

That's one way of doing it! ❁

For further information, please email info@haccp-international.com

First published in Food & Beverage News |Dec/Jan 2017| www.foodmag.com.au

The fridge laser that detects bacteria crawling all over food

Spotting the bacteria that causes food poisoning has always been a time-consuming and expensive business. **Until now.**

by **Emerging Technology** from the arXiv

Food poisoning is a potentially lethal condition and therefore a serious problem for the food industry.

Each year, some 50 million people suffer food poisoning in the U.S. alone, including more than a million cases of potentially lethal salmonella poisoning.

So finding ways to prevent the spread of this and other kinds of bacteria is an important goal. But it is hard to detect bacteria in food products. The most common detection methods involve techniques such as microbiological culturing, polymerase chain reactions, high-performance liquid chromatography, and mass spectrometry, to name just a few.

These methods are complex, expensive, and time-consuming. And they require highly trained technicians to perform them. Consequently, few food companies and outlets have access to this kind of technology, and consumers have to take the hygiene of most foods they buy on trust.

Now that looks set to change thanks to the work of Jonghee Yoon and pals at the Korea Advanced Institutes of Science and Technology in South Korea. These guys have found a quick and cheap way to spot bacteria on the surface of foods in just a few seconds. They say their technique could be easily used in food processing lines and even fitted to standard home fridges.

The new technique is simple in principle. Bacteria such as salmonella have hair-like flagella that they use to propel themselves across surfaces. This movement turns the surface of contaminated food into an ocean of writhing microorganisms. It is this movement that Yoon and co have worked out how to spot.

Their method is straightforward. When a red, coherent laser beam hits biological tissue, it is scattered through the material. This scattering causes the light to interfere, creating a random pattern called laser speckle.

Since bacteria on the surface of food also scatter light, this influences the speckle. And as the bacteria move, the speckle pattern changes. "By detecting the decorrelation in the laser speckle intensity patterns from tissues, the living activities of microorganisms can be detected," say Yoon and co.

All that is needed to monitor this change is a camera that can record the change over a few seconds. Yoon and co use one that takes images at a rate of 30 times a second and then

process the images by subtracting one from another to reveal any difference.

They've put their gear through its paces with a set of experiments on chicken breast. They began by contaminating samples of chicken breast with the common bacteria *Escherichia coli* and *Bacillus cereus*, which are common causes of foodborne illness. They then zapped each of the samples, and a control, with a laser while recording the speckle with a camera.

The results clearly show the utility of the technique. The image subtraction technique quickly reveals which samples are contaminated and to what degree.

The technique picks up both types of bacterial contamination, although it cannot distinguish between them. It also demonstrates that uncontaminated meat shows little or no change in the laser speckle pattern over time.

That's an interesting result. Monitoring laser speckle is quick and easy to do with cheap equipment that can be retrospectively fitted to food processing lines. And it requires little specialized expertise.

Crucially, the technique does not require contact with the meat and so can be done at a distance. It can also see through transparent plastic packaging, which does not influence the speckle pattern.

That could have an important impact in many parts of the world, particularly in developing countries that do not have easy access to microbiology laboratories. And the equipment is so cheap and simple that it could easily be fitted to ordinary refrigerators designed for the home.

There are limitations, of course. Although the technique detects different types of bacteria, it cannot distinguish between them. And of course, it cannot spot contaminants that do not change the laser speckle over time. So it wouldn't pick up viral contaminants, such as norovirus, which is responsible for five million causes of foodborne illness a year in the U.S. Neither does it detect the toxins produced by bacteria, which can cause illness even when the bacteria have been killed off.

Nevertheless, the new technique has the potential to significantly improve food hygiene and thereby reduce the number of cases of food poisoning each year. And that can't be bad. ❄



The Juggler

**‘Good bye’ to bottles
and ‘Hello’ to efficiency!
Faster service, reduced cost
and hygienic**

Really busy cafés can go through 150 litres of milk each day! That’s a lot of 2 litre bottles. Every bottle is purchased, received, moved, stored, retrieved from storage, opened, poured, poured again, left on the bench, poured again and finally discarded. Waste, employee handling, bench space and storage space are all impacted.

However some cafes are swapping their manual bottle systems for a milk storage and dispensing system that is revolutionising the café industry and bring joy to its baristas. Using this system, milk is stored in bladders within a chiller cabinet under the bench and dispensed from taps right at the coffee machine.

The Juggler is the first milk dispensing system designed specifically for use in a busy café environment.

It reduces waste, speeds up service and helps café staff to focus more of their attention on providing a great customer experience – and a great cup of coffee.

Milk is supplied in 10-litre bladders that can be loaded into the chiller system, so that up to 120 litres of milk can be dispensed from the taps without the need to reload the fridge. Most of the country’s milk companies now offer their customers milk in bladders that are compatible with *The Juggler*.

Once the milk is loaded, *The Juggler* helps to streamline the coffee making process and speeds up service. Time-saving features include hands-free volumetric dosing which enables a barista to activate a dose and then return to other tasks while the dose is automatically poured. This means less time is wasted opening, pouring from and crushing empty milk bottles.

Six Simple Machine’s Ross Nicholls explains “We take our product development and testing very seriously. Initially we spent 15 months in R&D, testing and achieving compliance and certifications before we were ready to publicly show and sell our first machine. Even now when making a design change, we test components to at least one million cycles on specially-designed testing rigs before extensive field trials begin in operating cafés. Only then do we consider making a permanent change.”

Charles Cameron, a Sydney barista with more than 4 years’ experience using *The Juggler* has declared that for him the presence of a Juggler in his workplace is non-negotiable. “*The Juggler* has helped revolutionise milk usage in the café and specialty coffee industry. I believe *The Juggler* will one day become a universal standard, which will drastically reduce milk wastage.”

From personal experience, Charles says *The Juggler* not only helps improve workflow, but provides a much cleaner



environment for busy café staff. “It’s the complete package; it delivers consistent doses, maintains temperature, can be used to rinse pitchers, it has a drain, keeps everything clean and is in line with environmental values,” Charles says. “*The Juggler* is evidence of how the industry has evolved.”

More than 500 cafés and restaurants across Australia and New Zealand are now using *The Juggler*. For these cafes, *The Juggler* provides savings opportunities that are easily quantifiable in terms of waste reduction, but it also adds value to businesses in many ways that are less measurable. This includes a range of OH&S benefits, positive comments from café customers and improvements in the speed of service, all resulting in more coffee sales.

Easy Line Flushing and Sanitisation:

The milk lines are cleaned daily by flushing and sanitising with special solutions developed especially for *The Juggler*. The CIP (clean in place) system is simple to set up and runs automatically for 15 minutes. This is complemented by periodic dismantling and inspections from Six Simple Machine’s service engineers.

HACCP Certification:

The Juggler has achieved HACCP International’s Food Safe Equipment, Materials and Services Certification. Ross Nicholls of Six Simple Machines reports that “Achieving



this certification was an extremely important factor in our initial R&D process. Throughout the initial design phase, we worked extremely hard to develop an easy-to-use and effective CIP (clean in place) system. As part of this, we worked with the Australian cleaning chemical manufacturer, Cafetto, to develop a milk line cleaner that would complement our CIP system and guarantee ongoing hygiene of the system without physically degrading internal components of the machine.

“Despite being confident in our CIP and cleaning chemical, we felt that we needed an independent and respected authority to verify our own findings and to help promote this aspect of *The Juggler* to prospective customers. Because HACCP International is widely regarded as an authority on food safety and hygiene throughout the café industry, their certification was the obvious choice.”

Final thoughts:

“What’s been most rewarding is that *The Juggler* has proven that the milk on tap concept is not only viable, we hear it being described as ‘the way of the future,’” Six Simple Machine’s Ross Nicholls. ❄

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Update from HACCP International's office in The USA



Debby Newslow, HACCP International's USA Vice President updates us on FSMA

The United States signed its new regulation, the Food Safety Modernization Act (FSMA), into law in 2011.

Since that time, the US Food and Drug Administration (FDA) has concentrated on preparing, releasing and responding to draft regulations. A total of 7 individual Rules make up the complete regulation.

The first two of the seven FSMA Rules, Preventive Controls for Human Food (21CFR117) and Preventive Controls for Animal Foods (21CFR507) were released in September 2015. Depending on the size of the company and its gross revenue, compliance dates of September 2016, September 2017, and September 2018 were identified. The remaining Rules have been released along with specific criteria linking directly to compliance dates for each Rule.

FSMA (2011) includes the following:

- Preventive Controls for Human Food
- Preventive Controls for Animal Food
- Produce Safety
- Foreign Supplier Verification Programs
- Mitigation Strategies to Protect Food Against Intentional Adulteration
- Accredited Third-Party Certification
- Sanitary Transportation of Human and Animal Foods

Each of the above Rules contains Subparts that address specifics such as Supplier Management, Allergen Control, GMPs, Record Keeping, and much, much more! It is said, with proof that substantiates this statement, that the US FDA release of this regulation is the strongest advancement of US Food Regulations since the 1938 release of the Food, Drug, and Cosmetic Act.

Company management and food/quality professionals are working hard to learn, understand, and apply the requirements. This has been the primary focus of the food production industry since the first compliance dates were announced. It is critical that companies know which regulations apply to their operation to ensure compliance while maintaining profitability.

As companies send associates to FSMA training and evaluate their current food safety/HACCP programs for gaps, existing and potential food safety risks presented by their infrastructure, equipment and tools cannot be ignored.

The Food and Drug Administration has committed to changing its focus to a more preventive approach. Investigators have told us that they want to work side by side with the industry to prevent adverse food safety events. So far, this change of focus/culture has been seen with many of these investigators attending the same training as the industry. It has been a great experience to watch the interaction and the team approach during our training between industry and regulatory personnel.

With respect to providing the Americas the opportunity to apply the expertise of HACCP International to our programs, the timing could not be better. In the last twenty years, there have been several recalls due to faulty or improperly used equipment. The classic example is the *Listeria monocytogenes* outbreak associated with cantaloupe. An interesting aside that is not always reported is that the company thought they were using a piece of equipment that had been evaluated by a third party, to an independent standard - but the only part of the equipment that had been evaluated was the handle. The "business end" of the equipment was not being used according to its intended purpose. This company ended up going out of business, and its executives remained embroiled in costly litigation for many years.

This is, of course, every food safety professional's worst nightmare – could that be MY company? MY client? How can one company effectively evaluate every piece of equipment under its roof – how are they to know if the equipment or tool is truly fit for purpose? The answer, of course, is that accomplishing this would be very difficult, if even possible. Therefore, the question remains – what can a manufacturing company due to be proactive in determining/confirming that product contact surfaces such as equipment, tools, brushes, cleaning chemicals are hazard-free and acceptable for their manufacturing operation. This applies to other items such as hairnets, gloves, and to services such as pest control.

This hypothetical company likely contracts independent experts when specialties become too difficult or expensive to manage in-house, and this is no exception. Evaluation of a piece of equipment can be likened to an independent specialty such as automation or specialized systems design, and there are now independent entities writing standards to which equipment, tools and services can be evaluated. This helps the hypothetical company to determine which items are best on the market, and fit for their intended purpose.

One such independent third party is HACCP International. Through the development of standards to which non-food items and services can be evaluated, they assist the food manufacturing industry in their preventive methods to evaluate, eliminate, or reject items before allowing them into their process. *While there is virtually no program that can "guarantee food safety", performing evaluations to a known standard prior to introducing it into our processes enhances the "preventive" culture focus that we must have in the world today. In addition to adding a preventive measure, our clients have also experienced a positive marketing opportunity. When there is only one company in the US that can provide magnets that have met the HI standard, which magnet supplier do you think they choose? Having the HI mark adds several additional levels of confidence and integrity to the product while providing the manufacturing site with records that the product has been evaluated to a known standard.*

We must focus on the fact that we can no longer learn from our mistakes, we must not make these mistakes. If we do, our product could cause harm or death to the consumer, whether human or animal.

I have two favorite quotes. The first one is from Henry Ford: "Quality is doing it right when no one else is looking". Of course, we cannot have quality without having a safe product.

My other favorite quote is from my mom, a concert pianist and teacher. She always said, "Life is like a piano. What you get out of it depends on how you play it." *

Please contact me directly at debby.n@haccp-international.com. Also, thank you to Erika Miller (Food Safety Specialist) for your expertise, contributions, and assistance with meeting our publication deadline.

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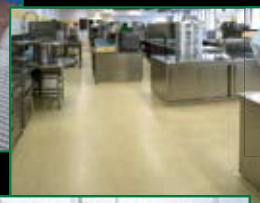
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Broken leaves in salad bags raise salmonella risk 2,400-fold – study.

Researchers say bacteria naturally present on leaves grows much faster once the bag is opened, even when kept in fridge.

Broken leaves in bags of prepared salad can hugely increase the risk of salmonella, a study suggests. Scientists found that juices released from damaged leaves in bagged mixed salad and spinach increased the risk of the bacteria 2,400-fold. It also increased the bacteria's virulence, enhancing its ability to cause infection.

Dr Primrose Freestone, who led the study by University of Leicester microbiologists, said: "Salad leaves are cut during harvesting and we found that even microlitres of the juices (less than 1/200th of a teaspoon) which leach from the cut ends of the leaves enabled salmonella to grow in water, even when it was refrigerated.

"These juices also helped the salmonella to attach itself to the salad leaves so strongly that vigorous washing could not remove the bacteria, and even enabled the pathogen to attach to the salad bag container."

Researchers stressed that salads were an important part of a healthy diet but said they were the second most common source of foodborne illness."

The researchers found that once a bag was opened, the bacteria naturally present on the leaves grew much faster even when kept cold in the fridge. As a consequence, they advised consumers to eat bagged salads as soon as possible after opening.

Significantly, they found that salmonella could grow at a refrigeration temperature of 4C (39.2F), below the previously observed minimum growth temperature of 5.2C, although independent experts suggested confirmation of this would be required through further studies.

The experts urged salad growers to maintain high food safety standards given the potential for a few salmonella cells in a bag at the time of purchase to increase to many thousands by the use-by date.

The study, published in Applied and Environmental Microbiology, did not test bought salads for the bacteria but examined how they grew on salad leaves when they were damaged and their adherence to the surface of their plastic packaging.

The researchers stressed that salads were an important part of a healthy diet but said they were the second most common source of foodborne illness, responsible for a number of salmonella and E coli outbreaks in the US and Europe.

Earlier this year 151 people were infected and two died after an outbreak of E coli in Britain believed to have stemmed from mixed salad leaves.

Contamination can occur from animal or insect contacts, soil, contaminated irrigation and wash waters or non-hygienic equipment and human handling. Salad leaves pose a particular infection risk because they are usually not processed, washed aside, and are consumed raw.

Other experts who were not involved in the study said it highlighted the need for careful storage – akin to other temperature-sensitive food products – and preparation.

Dr Kimon Andreas Karatzas, assistant professor in food microbiology at the University of Reading, said: "Consumers seem to be more preoccupied with nutritional facts, but they should not forget that foodborne pathogens can be deadly.

"Avoiding fresh produce is not a solution, but if possible it would be preferable to buy uncut fresh produce over chopped, and to always wash it before you eat – even the ones that are already washed. Furthermore, keeping these foods in the refrigerator is important."

Martin Adams, emeritus professor of food microbiology at the University of Surrey, offered some reassurance to consumers. "Prepared salads are generally washed in chlorinated water, a process that reduces levels of bacterial contamination substantially but does not guarantee their complete elimination," he said.

"It is for this reason that reputable supermarkets and food manufacturers take great pains to assure the quality of their sources of supply and that all reasonable steps are taken to minimise the chances of contamination at source and during production. This study addresses the situation when salmonella is already present in the product and would therefore already be a risk to the health of the consumer." ❄

Credit: theguardian.com

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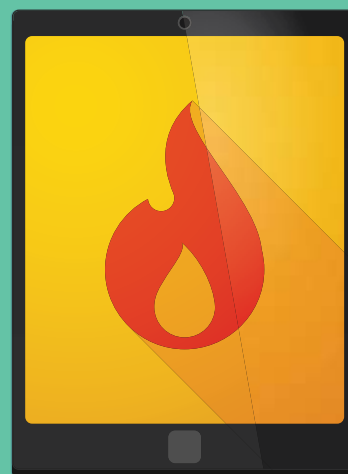
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Global food security

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The UK's main public funders of food-related research are working together through the Global Food Security programme to meet the challenge of providing the world's growing population with a sustainable, secure supply of nutritious food from less land and using fewer inputs.

USA food safety portal

www.foodsafety.gov

A food safety treasure trove supported by The Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture, the U.S. Food and Drug Administration (FDA), and the Centers for Disease Control and Prevention (CDC).

The science of food

www.psufoodscience.typepad.com

Our friends at Penn State University have a great web log that serves as a forum for news, views and discussion about all things related to the science of food: food chemistry, microbiology, engineering, process technology, and nutrition. Check it out !

Can food make people happy?

science.howstuffworks.com/life/food-happiness1.htm

Happy Foods - Some foods are happier than others. Learn more about happy foods at HowStuffWorks.

The science of Ice Cream

www.cooksscience.com/articles/feature/ice-cream

And why not? Extreme Ice Cream revelations abound here after Cook's Science Editors embark on an intensive one week ice cream course at PSU. Eat it – know it! ❄



From secure factory perimeters to secure food supplies.

From HACCP to TACCP and VACCP!

By Richard Mallett,

European Director of HACCP International

Back in July 2015 we wrote an article that summarised the main changes in Issue 7 of the BRC Global Standard for Food Safety. This of course included food authenticity and showcased really the BRC as an early adopter of the need to assess and mitigate food fraud, ahead of the other GFSI benchmarked standards, for which a GFSI requirement to incorporate the need for assessment of food vulnerability is now in place from 2017 in the next updated Standards.

In this article we would like to share some tips and ideas about what elements a food vulnerability risk assessment should include and what to do next with it. We say ‘what to do next with it’ because the reality of putting the time, effort and expert resources into producing the vulnerability study may produce a good study, but little in the way of further action to implement it and put it into practice. Moreover, any vulnerability study ought to be considered alongside the overall threat to food security. Yes, each type of study is driven by two separate, and newly created, acronyms – TACCP (Threat Assessment Critical Control Point) and VACCP (Vulnerability Assessment Critical Control Point) but in fact, unknown or unverified staff members, perhaps those with a criminal background or illegal entrants to a country, at any point within the supply chain, may (respecting that it will be a tiny minority) have been coerced or financially tempted into not just food tampering but food substitution or alteration for financial gain. So not only could food fraud be happening within your supply chain, it could be happening within your own secure perimeter!

The higher the value, the more likely it is to encourage the criminal activity of food fraud.”

During a recent BRC Certification visit to a food supplier, a respected and senior Certification Body auditor-trainer mentioned, during his evaluation of the vulnerability risk assessment, that he had seen studies ranging from a page or two long, to those with significant detail, quantitative in their analysis and with clear action plans. The question here must be whether this is enough robust guidance to completion of a VACCP risk assessment or whether some within the industry are completing a short study to tick the audit box and crossing fingers for the days of audit. So, this may be the only opportunity to disclaim this article as the absolute reference point for conducting a VACCP analysis! Indeed, the intention is simply to provide the reader with some thoughts about types of information, the importance of information sources and what to do with it.

When considering the layout of a VACCP assessment, think firstly along the lines of HACCP. You should perhaps consider the entire process flow from supply chain to despatch and even third party storage and haulage. A VACCP flow diagram will help here. Next you really should determine a scope of the VACCP assessment – documenting types or categories of foods considered in the study, the information sources you will use for horizon scanning and the occasions upon which you will routinely review the VACCP plan or indeed occasions which would call for an extraordinary review, such as emerging risk or data that illustrates that certain food sources have become or are at great risk of becoming a vulnerability threat. There is a surprising amount of information that illustrates the “top ten” type of list of food commodities at risk, including sources such as the European Parliament draft report of 2013 (2013/2091) on the food crisis, fraud in the food chain and the control thereof, which states that the top 10 foods subject to fraud are: olive oil, fish, organic foods, milk, grains, honey, maple syrup, coffee & tea, spices, wine and certain fruit juices, based on academic studies, police records and industry consultations.

There is no specific rule on whether a VACCP assessment must be scored quantitatively according to risk or just a qualitative assessment but it may be easier in the long run to determine an overall risk rating in order to prioritise the follow up actions that may be needed as a result of the review. One of the most important factors to consider are the categories, or types of risk. Just as for HACCP, if we declined to consider the chemical food safety hazard sources whilst having a robust study for biological, physical and allergenic hazard, so it is with VACCP, the outcome of exclusion of a risk source may make for an ineffective VACCP Plan. So what might be some good vulnerability risk sources to consider? Well, the list below, whilst not necessarily exhaustive, may provide a good starting point:

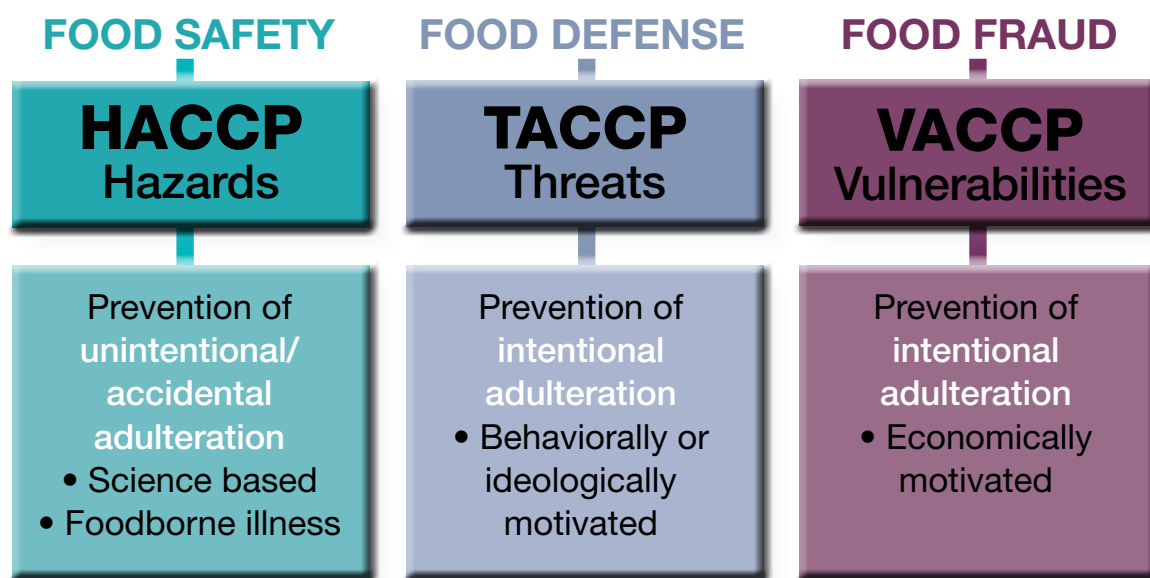
- Availability of raw material due to, for instance, crop disease, crop failure or even geo-political unrest in source areas. There are some excellent sources of information and the reader may do well to bookmark the Food and Agriculture Organisation of the United Nations website where comprehensive information on crop and livestock yield, prices, weather or climate induced shortages, and disease induced shortages are freely available and in most cases document a quantitative report comparing previous years or periods and looking ahead to future years and periods. This requires reading of course and taking note of the detail but certainly provides, for most foodstuffs a robust analysis. There may also

be some useful information from sector, or food commodity specific, sources available. As just one example, 'Oceana' and 'Globe Fish', both operate comprehensive websites with freely available information about global fish and seafood supplies.

- The ease with which a particular food can be substituted by another. Somewhat disappointingly the USP based Food Fraud website, which was freely available and documented past cases of food adulteration or substitution for all food types, used to be a free service. It now requires the purchase of a quite costly licence to access the data. This has most likely happened in response to the array of automatic, web based, horizon scanning systems which are now available, some of which are indeed extremely comprehensive, and may be a good opportunity for larger business for whom the cost of a repeating licence is not a barrier. Those who cannot invest are reduced to search engine analysis picking up on stories from industry, reported by legal authorities and even by the food industry themselves.

handling" links in the supply chain, considering especially storage and distribution agents as well as the agents or brokers involved. It is considered that the shorter the supply chain the lower the overall risk, as there are simply fewer partners who have been coerced or find themselves financially tempted by criminal adulteration or substitution of foods. Those who have access to foods, physically, are the greatest risk, but criminal activity involving agents or brokers cannot be discounted.

- The credit rating of the supplier – Those suppliers that are in significant financial difficulty may be tempted by food fraud to attempt for instance to sell a lower value commodity "dressed up" as more expensive, for instance substitution of non-organic for organic produce or by use of a filler or substituted material to lessen the cost to them. It would be an unnecessary black mark to consider all suppliers in financial difficulty as risk sources, but from the point of view of VACCP, the risk is greater.



- The value of the raw material – the higher the value, the more likely it is to encourage the criminal activity of food fraud. The Food and Agriculture Organisation website is invaluable here as it contains up to date commodity prices and predictions. The food industry will have, within its accounting system, vast quantities of data here too, which could be accessed to determine pricing trends for raw materials.
- The availability, accuracy and use of analytical methods to determine purity. The laboratory, and the laboratory diagnostics supply industries are showcasing an ever greater range of tests and kits to determine purity and to identify common adulterants in certain food types. A study of any food industry journal or trade magazine will yield information relating to the test available and the food types covered. Visiting the websites of, or talking directly to these suppliers or the laboratories will provide for some useful information you can use within the VACCP Plan and may even provide for a useful source of purity checks you may wish to conduct, as part of an action plan resulting from VACCP, on your own raw material supply.
- The length of the supply chain – the more numerous the links, the more likely fraud will go undetected. This requires detailed knowledge of the number of "food

- The geographical source of raw material – some geographical areas are more commonly associated with food fraud. This situation should improve as greater legislation and active regulation of the legislation is implemented across the globe but for now there are areas at risk simply because the resources, know-how or willingness to inspect and monitor for food fraud activities is not robust.
- The use of unverified and unchallenged suppliers. This considerably increases risk of food fraud, especially in conjunction with number 5 above (length of supply chain). The controls that should be in place are either verification of a genuine GFSI certificate (as long as VACCP is an element of that particular standard) or an actual audit of the supply chain. The use of self audit should really be limited, in VACCP terms, to food commodities which are of lower overall risk, and this will indeed be determined through the robust VACCP assessment.

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 where possible, or assessing and documenting a full analysis of VACCP based

FACTERIA

Getting serious about Bacillus cereus

Bacillus cereus is a bacteria which forms a toxin when it is allowed to grow in food. When the food is eaten, the toxin will cause illness that will last for 1-2 days. Symptoms such as vomiting and diarrhoea will occur rapidly after eating the food (about 2-6 hours normally) as the toxin begins to affect the body.

The bacterium is widely found in nature, being a natural flora of soil, vegetables, dust, water and cereal crops (from where the name is derived).

From such hosts, one recognises that *B. cereus* can be borne by food, water or air borne making elimination from the source very difficult.

Making matters more complicated is this bacterium's ability to form spores that are capable of surviving normal cooking procedures such as boiling.



Rice based meals can be high risk for *B. cereus*

Foods commonly affected include cornflour based sauces, cereal products and most commonly rice, especially that boiled and eaten cold. A high risk scenario involves the slow cooling of boiled rice and incomplete reheating to acceptable temperatures or long holding periods at room temperature. From a food handling and control point of view the most important factor is the cooling for *B. cereus*. Food must be rapidly cooled to below 5°C. FSANZ guidelines are clear on this. From 60° to 21°C in no more than two hours and then down to 5°C and below in no more than a further four hours. ❄

controls within that supply chain where shortening the supply chain is not practical or desirable.

- Demanding certificates of analysis of purity with each batch or setting up a screening programme for those food commodities which come out of the VACCP Assessment as high risk.
- Full audit, verification of VACCP information and/or certification of the supply chain.
- Demonstrable and full traceability within each link of the supply chain.

Earlier we mentioned the uncomfortable possibility of members of staff or trusted partners being part of food fraud. This should be accounted for in VACCP with, as a minimum, a link to TACCP, wherein there should be detailed arrangements to screen and check for instance new members of staff, establishing their right to work in the country, reference and where needed criminal background checks.

The next thing to consider is what to do with the information that the VACCP study yields. Like any good risk assessment the study will highlight areas of compliance and areas that require the implementation of further controls. This is the advantage of a quantitatively scored VACCP Plan. Action can be targeted where it is needed most. Action plans should be devised and may include audit of the supply chain, or the implementation of random raw material screening controls for instance. It is the fulfilment of these action plans that, ultimately, will serve to reduce the risk of using adulterated or fraudulent food supplies. Don't forget to follow these actions through – the BRC, SQF or FSSC auditor won't forget to look! ❄

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**In this section
there are a few
food safety and food
industry news snippets
from around the globe.**

From the USA

Raw milk cheese linked to two listeria deaths in the US

Reference BBC bbc.com/news/world-us-canada-39229635

Two people have died and four more have fallen ill following an outbreak of listeria linked to recalled cheese in several eastern US states.

Officials say it was probably caused by a soft raw milk cheese called Ouleout from Vulto Creamery in New York state.

The cheese was stocked by a Whole Foods shop in Fairfield, Connecticut, and may also have been available in specialised cheese shops.

The creamery recalled several soft cheeses on Tuesday.

Six cases of listeria have been recorded in Connecticut and Vermont, where the deaths occurred, as well as in New York and Florida.



The people infected range in age from less than a year to 89, and five of them are female, the US Centers for Disease Control and Prevention (CDC) says. All six were taken to hospital and the identity of those who died has not been released.

Listeria bacteria can occur in raw milk and foods made with it, and can survive refrigeration. The bacteria are killed by cooking and pasteurisation.

Vulto Creamery said it was working on recalling the affected cheese.

The company says it makes small batches of handmade cheese using raw milk from local dairy farmers. Its founder started out by making cheese in his apartment in Brooklyn.

Vulto describes the Ouleout cheese as a “semi-soft washed rind cheese” made from unpasteurised milk that tastes “pungent and meaty”.

Raw milk is milk from cows, goats, sheep or other animals that has not been pasteurised - the process of heating the milk to a specific temperature for a specific period of time to kill bacteria.

Some consumers say raw milk has more flavour and makes better cheese. Others choose unpasteurised milk as part of a broader shift away from processed foods, which are increasingly seen as unhealthy.

However the CDC says raw milk presents one of the biggest risks to consumers, who may face “many days of diarrhoea, stomach cramping and vomiting” and in rare cases kidney failure, paralysis, chronic disorders and even death.

The bacteria in raw milk can be especially dangerous to those with weak immune systems, older people, pregnant women and children, the CDC says.

Raw milk products are illegal in 20 US states, can be obtained from farms in 25 states and are available in shops in 13 states. EU countries make their own laws but products made with raw milk must be labelled. About a fifth of French cheese is made using raw milk.

In the UK, the sale of raw cow's milk is banned in Scotland but products made from it can be bought. Raw cow's milk can be bought from producers in the rest of the country.

How do babies contract listeriosis?

In some Listeria monocytogenes food poisoning outbreaks, infants contracted this infection. In the current listeriosis outbreak linked to recalled Vulto Creamery raw milk cheese, one of the illnesses was reported

in a newborn baby. Since babies do not consume raw cow's milk or eat raw cheeses or unpasteurized juices, the most common vectors for this pathogenic bacteria, how do they get sick?

Short answer: their mother was sick.

When a woman eats food contaminated with this pathogenic bacteria, she can pass the infection to the foetus. And if the foetus survives, since listeriosis can cause miscarriage and stillbirth, they can be born with this infection.

In another case, 35 illnesses occurred in pregnant women. One of the expectant mothers passed the bacteria to the foetus. Her baby was born with a serious infection and needed a month of treatment in the neonatal intensive care unit.

There are two mechanisms for fetal infection: early onset and late onset. In early onset, the bacteria gets into the placenta, most likely by the woman's immune system coming into play. It grows rapidly there and can cause miscarriage. In late onset, full term babies who are otherwise healthy are affected. These infants usually develop meningitis. In addition, listeriosis can slow the fetal heart rate, often for extended periods of time.

Listeria infections are 20 times more common in pregnant women than in the general population. And pregnant women account for 27% of all listeriosis patients. That's why obstetricians tell their patients to avoid soft cheese, deli meats, raw milk products, smoked seafood, and unpasteurized juices, foods that carry a higher risk of Listeria contamination.

In addition, some pregnant women don't even know they are sick. They may only have a mild, flu-like illness, or think that their symptoms are related to pregnancy. Listeria bacteria hide in host cells and may not disrupt the digestive system, unlike bacteria such as E. coli and Salmonella. The bacteria can then cross the placental barrier and affect the foetus.

Listeriosis in fetuses and infants is serious and often fatal. This infection can cause pneumonia, sepsis, or meningitis (inflammation of the brain and spinal cord).

If you are pregnant, it's important to keep informed about recalls of foods for Listeria monocytogenes.

From Egypt

Food poisoning spreads among school children, likely caused by free school meals

In March this year, 300 children exhibiting symptoms of food poisoning in three



governorates across Egypt, added to a spate of more than 3,000 food poisoning cases across the nation's school children in which free school meals are suspected to be the cause.

In Suez, 211 children were sent to hospital from Kabreet al-Bahara district, while 98 students from Upper Egypt's Aswan and three from Cairo were hospitalized for the same reason, according to a statement from the Ministry of Health.

Some 113 school children were also briefly hospitalized on Tuesday in Monufiya governorate after displaying similar symptoms, including stomach pain, according to a Ministry of Education statement yesterday. The statement pointed to the biscuits in free school meals as the possible culprit in the suspected poisoning of students at the Khadra primary and tertiary school in Bagour district.

Earlier in the month, over 2000 children in the Upper Egypt governorate of Sohag were hospitalized after suffering from symptoms such as stomach pain and vomiting. The outbreak reached eight hospitals in the Sohag's Akhmim district.

24 students were poisoned as a result of consuming food distributed at Nagea Sabea school in Upper Egypt's Assiut, resulting in the suspension of school meals throughout the whole governorate, while 17 primary school students in Upper Egypt governorate of Beni Suef were also suspected to have food poisoning after eating school meals. Around 200 students were also diagnosed with food poisoning in Minya, another governorate in Upper Egypt.

The Health Ministry spokesperson, Khaled Megahed, said in a televised interview on March 14 that "any meal provided in schools is subject to tests carried out at the premises of the meal's distributor by the ministry's Food Oversight Administration, which approves the supply protocol if the food is safe for ingestion."

The incident prompted the Health Ministry to halt meal supplies to the Sohag schools pending investigations.

The presidency created an urgent committee to investigate the reasons behind the mass food poisoning, according to spokesperson Alaa Youssef. Parliament is also investigating the incidents and plans to visit the affected governorates, education committee member Hany Abaza told privately owned news website Masrawy. The aim is to determine the causes of mass food poisoning to fix the school meals program rather than terminating it, added Abaza.

The current school meals program was designed in collaboration with the United Nation's World Food Program, and since February it has been funded by the European Union. The Ministry of Solidarity currently oversees the implementation of the program with other relevant ministries.

Increasing free school meals is part of an agreement signed with the IMF in November that entitles Egypt for \$12 billion financing over three years. To balance the inflationary repercussions of the austerity measures specified in the agreement, it obliges Egypt to earmark 1 percent of GDP by June 30 for "additional food subsidies, cash transfers to the elderly and poor families, and other targeted social programs...including school meals and subsidies for infant formula."

From the UK

Filthy conditions. Is this London's worst ever?

As a preface to this, one should note that the vast majority of food businesses – 94% – pass safety inspections. That said there are a handful that fail to meet standards so flagrantly that not only are they shut down, but their owners are prosecuted. More than 100 UK businesses were successfully prosecuted in the year to April 2016, with sentences including prison, suspended sentences, community service and fines of tens of thousands of pounds.



The Golden Dragon on Barking Road in East London entered into the realm of mythology among environmental health officers at Newham council. The Chinese takeaway was, they say, the worst business they have seen. In a borough with the worst food safety scores in London, where more than 50% of takeaways fail inspections, that is saying something.

Inspectors were tipped off about the business, but Edward King, the officer who went to inspect it, twice found it closed. On the third visit he stood outside the building and waited. When he saw the shutters open and a man on a moped leave the premises with a delivery on the back, he ducked under the shutters and conducted an inspection. Cockroaches and rat droppings were everywhere. Matthew Collins, the principal environmental officer, said: "The back (of the restaurant) was absolutely terrible. There was pest infestation, no means of disinfectant, they were cooking wearing dirty clothes."

Large uncovered saucepans were full of food cooling inches away from rubbish bags, cockroaches and rodent droppings. The premises was shut down immediately and has since closed. The owner has so far avoided prosecution by disappearing!

Consumer hand washing

A study published in the Journal of Environmental Health found that only 5% of consumers wash their hands correctly. Scientists trained 12 college students in the field of data collection. They then observed 3,749 people washing their hands in public toilets.



The observers found that 15% of the men and 7% of women didn't wash their hands at all. Only 50% of men and 78% of women used soap. People were less likely to wash their hands if the sink looked dirty, and more likely if a sign telling people that hand washing is a good idea was hanging above the sink. And for some reason, more people wash their hands during the day than at night.

Read more about the hand washing study at the Food Poisoning Bulletin foodpoisoningbulletin.com ❄

FACT



This product is food safe

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
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

AERIS ENVIRONMENTAL (I)
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)
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

ABURNET
KIMBERLY-CLARK PROFESSIONAL (I)
LALAN GLOVES SAFETY CARE
LIVINGSTONE INTERNATIONAL
PARAMOUNT SAFETY PRODUCTS
PRO PAC PACKAGING
RCR INTERNATIONAL
STEELDRILL WORKWEAR & GLOVES

FACILITY FIXTURES, FLOORING AND FIT OUT

ALTRO SAFETY FLOORING & WALLING (I)
ARGELITH HEXALITH (I)
ASSA ABLOY ENTRANCE SYSTEMS
BEST CRETE (M) SDN BHD (I)
BLUCHER (I)
BLUE SCOPE STEEL (I)
CARONA GROUP
CEMKRETE/MFRP ENGINEERING (I)
DEFLECTA CRETE SEALS
DYSON AIRBLADE (I)
ELECTROLUX (I)
ELPRESS (I)
ESTOP FLOORING SYSTEMS
FLOWCRETE (I)
GENERAL MAT COMPANY
GIF ACTIVEVENT (I)
HALTON (I)
HANECO
MANTOVA
NUPLEX

FACILITY FIXTURES, FLOORING AND FIT OUT CONTINUED

LABELS - FOOD GRADE

PHILIPS LIGHTING
ROXSET
SIKA (I)
SILIKAL (I)
STONHARD (I)
THORN LIGHTING
UCRETE-BASF (I)
UNIVERSAL FOOD SERVICE DESIGN
VIACOR (I)
YOUNGSAN (I)
YUE PO ENGINEERING (I)
ZUMTOBEL

MAGNETS

LABEL POWER
OMEGA LABELS
W W WEDDERBURN

MANUFACTURING EQUIPMENT COMPONENTS & CONSUMABLES

AURORA PROCESS SOLUTIONS
MAGNATTACK GLOBAL (I)

PEST CONTROL EQUIPMENT AND MATERIALS

BIOCOTE (I)
CRC INDUSTRIES
ITW POLYMERS & FLUIDS
LANOTEC
SICK
SMC PNEUMATICS
WURTH

BAITSAFE (I)
BASF (I)
BAYER (I)
BELL LABORATORIES INC (I)
ECOLAB
LODI (I)
PELGAR
PEST FREE AUSTRALIA (I)
STARKEY PRODUCTS (I)
SUMITOMO (I)
SYNGENTA (I)
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)
DANFOSS (I)
E-CUBE SOLUTIONS
MISA (I)

STORAGE EQUIPMENT & PACKING MATERIAL

NETPAK
RCR INTERNATIONAL
SCHUETZ

THERMOMETERS, PH METERS & DATA LOGGERS

3M
TESTO (I)

TRACEABILITY

GS1 AUSTRALIA

(I) indicates that the company offers products or services with global or regional certification. Others have national certification in one or more countries.

Kitchen Ventilation vs Health Management

Grease and exhaust are always the enemy of chefs and food safety officers. Providing a safe and healthy environment is a vital in food production zones and investment in the best kitchen ventilation system is very important. The UVWS system offers the very best solution in terms of economy, efficiency and hygiene.



UVWS



Advantages of VENTWASH20 UV Ventilation System

- Achieve 91% total oil and grease removal efficiency.
- HACCP Compliance design for kitchen hygiene.
- Passive supercapture lip design for controlling smoke fume without external force.
- Auto-water wash model for reducing the cleaning workload of the chef.



	UV Ventilation System	Grease Filter / Hydro-washing hood
Grease & Oil Removal Efficiency	91%	30 - 60%
Frequency of Canopy cleaning	Annually	Quarterly
Frequency of Duct cleaning	Every 5 year	Every year
Parts Replacement	Limited Parts	Lots of Wear & Tear Parts

Please visit below link for more information:

<http://www.ypt.com.hk/download/K-code%20PDF/Vent%20Wash/UVHOOD.pdf>



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E-MAIL | ypt@techwin.com.hk



As used in UK and European hospitals, and now fast being adopted in food preparation areas, commercial kitchens, and the food manufacturing industry around the world as well.

BaxxAir Destroys Bacteria



BACTERIA : testing on air-borne pathogens found the Baxx to be up to 99.9% effective in removing all pathogens after 90 minutes.

VIRUSES : in controlled environments viral traces were reduced by 88.96% after 90 minutes.



BAXX™

AUTOMATICALLY DECONTAMINATES AIR

www.baxx.com.au

www.baxx.biz (Singapore)

www.baxxuk.com



TESTS INDICATE EFFECTIVE ELIMINATION OF THE FOLLOWING -
ESCHERICHIA COLI (E COLI)
STAPHYLOCOCCUS AUREUS
LISTERIA MONOCYTOGENES
PSEUDOMONAS and ASPERGILLUS NIGER
CAMPYLOBACTER
BACILLUS SUBTILIS SPORE
SALMONELLA
SACCHAROMYCES CEREVISIAE
MRSA, C.DIFF(SPORE FORM) AND NOROVIRUS



With more than 150 years in pest management, Bayer is dedicated to applying our mission of Science for a Better Life to the food industry.

We can assist you with thorough and independent risk assessment and consultation to underpin the best possible Integrated Pest Management (IPM) program. Bayer will then work with best in class Professional Pest Managers to keep your site pest free and audit compliant.



Consultancy

Independent assessment of your pest control needs.

- On-line risk assessment tools.
- On-site risk assessment.
- Formal IPM planning.



Partners

Global network of experienced pest management operators.

- We work with partners to deliver consistent standards across the globe.
- Our network is backed by local and global Bayer technical experts.



Training

Training programs tailored to meet your specific needs & audit requirements.

- On-line training for food industry teams.
- On site team training, specific to industry & site specifications.



Products

Global leader in the development of pest management products.

- Innovative pesticide-free solutions for pest management.
- HACCP Int. certified & hypoallergenic product options.
- Complete product range with class leading efficacy.





How do you know

whether equipment, materials and services are suitable for use in food processing and handling?

Only one mark truly confirms a non-ingredient product is food-safe. If it's not food-safe in every respect, it can't carry this mark – simple.

The HACCP International certification mark is aligned with the due diligence requirements of the world's leading food safety standards and quality systems. Ten key criteria are examined to give you that full assurance. Certified products need to satisfy ALL criteria – not just individual components. It's either completely fit for its purpose or it's not!



No ifs, no buts, it is or it isn't!

That's why products from these respected manufacturers and many more carry the mark.



HACCP INTERNATIONAL
eliminate the hazard - reduce the risk

www.haccp-international.com