HACCP INTERNATIONAL
FOOD SAFETY BULLETIN

ISSUE 13 2017

HOST - Milan 2017
see you there!

See the **very best food safe products** from internationally acclaimed companies such as:

• **3M** • **Electrolux** • **Elpress** • **GIF** • **Halton** • **Hoshizaki** • **Misa (EPTA)** • **SPM** • **Testo** and **many more!**

host **Milano**

Equipment, Coffee and Food
40th International Hospitality Exhibition
October 20_24, 2017 fieramilano

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!

HACCP INTERNATIONAL
FOOD SAFETY PROGRAMME
CERTIFICATION

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

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

3M   **altro**   **BASF** We create chemistry   **COMMERCIAL** Brands you can trust   **deb**   **Kimberly-Clark PROFESSIONAL**   **misa**   We measure it. **testo**

HACCP INTERNATIONAL
eliminate the hazard - reduce the risk

www.haccp-international.com

Clive Withinshaw,
Director, HACCP International

Welcome
to the HOST edition

Once again, the industry plans to come together for the biggest fair of them all - Host Milan 2017 - in October. We at HACCP International are one of many companies who see this as the very best food industry equipment exhibition. While there are many such shows with rich histories and top attendances, using tennis as an analogy, this is the 'Wimbledon' of exhibitions for most of us in our industry.

We are proud to see that a 'host' of varied products that carry our food safety certification will be 'playing at the championships' at HOST this year. Food safe products and equipment from such diversified companies as **Halton, Elpress, Iglu, Electrolux, GIF, Testo, Hoshizaki** and **3M** as well as may others will be delighting visitors with their first class, well designed and food safe products. Meanwhile, Italian champions will be enjoying the home ground advantage and, if history repeats itself, companies such as **SPM** and **Misa (EPTA)** will no doubt light up 'the centre court' with an array of truly well designed and clever products on great stands.

We at HACCP International always enjoy the Host week and use it as an opportunity to gather staff from our offices around the world for internal meetings as well as education as to way our industry is moving forward in product design and functionality.

We look forward to saying hello to old friends and new during the course of the show and perhaps dipping into this Fiat-themed refrigerator that was noted for cooling the champagne at the last two shows!

In this issue, we feature a number of companies whose products will be on display at HOST and encourage any readers attending to visit their stands and see how excellent food safe design has been incorporated into their products.

Joining us in Milan will be HACCP International's new Global Certification Manager, Ms Rachel Meryment. Rachel joins us from *The Heart Foundation* in Australia where she served in a similar position.
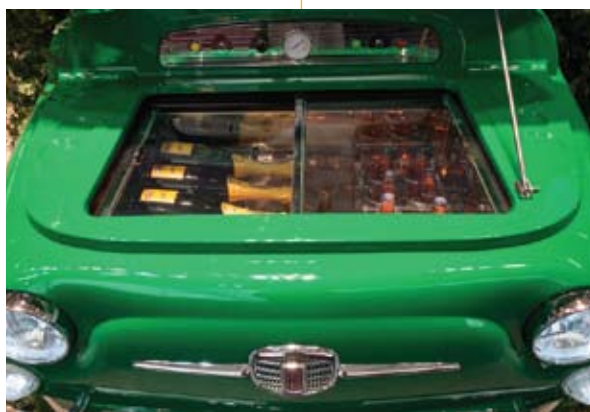
Rachel Meryment,
HACCP International's Global Certification Manager

Her certification experience, coupled with her food technology background, made her a stand-out candidate for the position. She will be the global touch point for many companies around the world that require certification for food safe products and materials. ✳
See you in Milan

Good climate and high hygienic standards in professional kitchens

What brings the best hygiene in the kitchen when the air is contaminated?

In the key area of the kitchen especially an efficient ventilation is essential. The GIF ventilated ceiling, first ventilation system to hold a HACCP certification, offers first-class advantages in the fields of ergonomics, hygiene and fire protection. It is being successfully used whether in the hot kitchen, dish-washing area, servery and preparation.

The GIF ventilated ceiling is a modular cassette construction and performs both extract air functions above cooking appliances as well as air supply functions outside the extract air areas.

Thanks to the modularity and the 100% active surface characteristic, the system works under the laminar airflow principle. The extreme low, barely sensible air speed both in extract and supply areas makes crucial advantages:

- Best possible capture of waste steam and vapours
- Pollution by harmful substances overall avoided
- Best possible room climate and ergonomic comfort
- No draughts

Modularity and the full-surface active characteristic grant outstanding hygiene advantages. All active cassettes can be removed from the ceiling grid simply by pushing and pulling in the rows. Therefore, the GIF active cassette ceiling can be removed from virtually any location almost entirely (approx. 98%) and can be cleaned in any industrial dishwasher. As a result, climbing on kitchen equipment is not necessary and hygienic cleaning is guaranteed. The unique modular system offers very high transparency and hygiene due to a construction which is fully reversible.

The patented area-active GIF ventilation system satisfies all current DIN and EN norms and is HACCP, ULC and TNO certified. GIF ActiveVent delivers best German Quality, the company is ISO 9001:2008 certified by the TÜV institute. The GIF ventilated ceiling delivers a number of advantages in hygiene, ergonomics and safety:

Premium Advantages
- Separation degree over 97%
- Draught-free environment
- Easy to modify and 100% convertible
- Integrated LED lighting
- Durable, all modules in stainless steel

Hygienic Advantages
- Highest hygienic standards, exhaustive cleaning in dishwasher
- Cost-saving cleaning performed by the own kitchen staff
- Easy to handle and to clean

Technical Advantages
- 100% of surface is flame-proof
- Space-saving technology, only 200 mm height needed
- Quiet surrounding, noise absorption modules available
- Energy saving, thanks to a minimal pressure drop

GIF is constantly innovating and putting a lot of effort in research. On March 2017 our new system to save energy has been presented on the market: ecoAZUR. The idea is to save energy by variating the airflow automatically, reducing the airflow when cooking operations are low.

Operations in commercial kitchens result in heat and/or vapours. In order to detect both the two significant parameters, ecoAZUR relies both on optical and thermic sensors.

Depending on the individual cooking operations i.e. vapour intensity and/or temperature level, the airflow is adapted accordingly. This efficient kitchen ventilation permanently ensures optimal air quality and ergonomics, at the same time making a relevant energy saving possible.

GIF ActiveVent was founded in 1976 with headquarters in Freiburg, Germany. In over 40 years the company has expanded constantly, today with operations in over 42 countries.
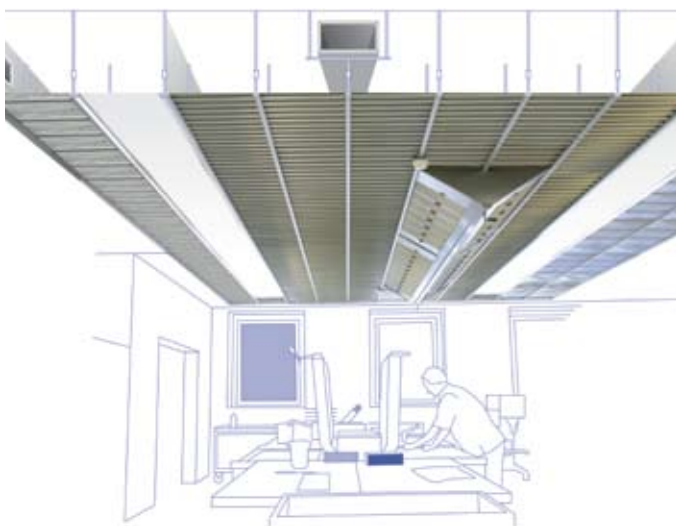
GIF accounts a number of prestigious references, just to name few:

Premium Hotels

Hilton (Athens GR), Ritz Carlton (Muscat OM), Marriott, Four Season Hotel (Dubai AE), InterContinental (Ljubljana SI), Mövenpick (Frankfurt DE), Le Meridien (Abu Dhabi AE).

Staff canteens

Nestlé (Milano IT), Unilever (Hamburg, DE), Siemens (Lisbon PT), BMW (Shenyang CN), Mercedes Benz (Prague CZ), Ikea (Berlin DE).

Inflight Catering

Emirates Flight Catering (Dubai AE), LSG SkyChefs/Lufthansa (Santiago de Chile CL), NDIA Inflight Catering (Doha, QA), Hellenic Catering (Athens, GR), Boryspil Airport (Kiev, UA)

Institutional and public facilities

European Parliament (Brussels BE), Parliament House (Canberra AU), House of Lords, House of Commons, Buckingham Palace (London GB), Hollywood Hospital (Perth AU), FGBU Hospital (Moscow RU), Bona Dea Hospital (Baku AZ).

To learn more about GIF meet us at the HOST 2017 fair in Milano. You will find us at the Stand U50 in Hall 7. ❋

More information on our brand new website :
www.gif-activevent.com
GIF ActiveVent GmbH,
Brühlstr. 7 79112
Freiburg, Germany
Contact: Mr. Volker Eckmann
Tel. +49 7664 9302-0
info@gif-activevent.com

BIOLOS

Biolos R1 hand dryer

short drying time | **1000W 700W power** | **85% less energy** | **HEPA filter** | IONPURE

- all new brushless motor
- low power consumption – only 1000W
- drying time only 10 seconds
- noise less then 80 db
- easily changeable hygienic HEPA filter
- antibacterial coating with ION PURE®
- up to 85% less energy
- anti-splash provides clean surrounding
- automatic switch off after 20 seconds
- water collection reservoir
- water full sensor, filter change sensor
- remote control (uses and time in operation)
- colors: pearlescent white, silver, black
- HACCP food safety certificate

www.biolos-hygiene.com

ALERTS IN THE UK
A round up from the
Food Safety Agency

By Richard Mallett,
Director of HACCP International EMEA

Many HACCP International customers and various of our other stakeholders will know me as something of a food safety "nerd" and can quite possibly imagine me late at night, at a desk, under a lamp, poring over various facts and figures. This article quite possibly lends support to that!

It is always interesting to understand the figures behind product recalls and alerts as one method of understanding where we are, currently, in terms of breaches in food safety control within the food industry. Whilst these alerts do not provide full reason behind the occurrence of the issue, one can surmise the most likely cause, from a history of knowledge of the outcome of various GFSI and independent audits. So, below I have broken down the alerts issued over a period of one year from August 1st 2016 to July 31st 2017. There have been a total number of alerts of 65 (except allergen) and 152 (including allergen) which can be broken down, in detail, as follows in the listing below:-

- Failure of process procedures to control Clostridium botulinum – 8
- Physical contamination or risk of physical contamination – glass – 3
- Physical contamination or risk of physical contamination – plastic – 5
- Physical contamination or risk of physical contamination – metal – 10
- Physical contamination or risk of physical contamination – wood – 1
- Physical contamination or risk of physical contamination – rubber – 1
- Incorrect use by or best before date – 6
- Unauthorised food additive – 1
- Possible chemical contamination – 3
- Underprocessing/undercooking – 2
- Possible presence of Campylobacter in product – 1
- Presence of Listeria or Listeria monocytogenes in product – 3
- Presence or possible presence of Salmonella in product – 6
- Presence of possible presence of toxin producing E.coli – 2
- Production from unapproved premises – 2
- Higher/lower than specified levels of ingredient in pet food – 2
- Product potentially marked as unfit for human consumption – 1
- Product tampering/potential product tampering – 2
- Unspecified risk of food poisoning – 1
- Failure to comply with food hygiene regulations/HACCP – 1
- Manufacturing problem leading to processing/quality issue – 2
- Secondary microbial fermentation leading to potential bottle burst – 2
- Failure to declare allergen(s) and/or incorrect allergen labelling – 87

Those familiar with the GFSI Food Safety Standards will know that each standard is broken down into separate sections to control, as appropriate, for instance: processing errors; contamination from site, packaging or equipment; allergen; and label/pack control. It is therefore useful perhaps to group the above raw data into categories that could be distinguished in terms of the most appropriate control, in the context of the format of the GFSI Standards. This provides us with the following picture in the pie chart of figure 1:-

- ■ Failure to declare allergen or allergen label issue – 87
- ■ Physical Contamination (all types) – 20
- ■ Microbial contamination (presence of pathogens – all types) – 12
- ■ Processing error leading specifically to botulinum risk – 8
- ■ Other processing issue – 8
- ■ Incorrect labelling – expiry date – 6
- ■ Chemical contamination / unauthorised chemical ingredient – 4
- ■ Unapproved premises or inadequate HACCP – 3
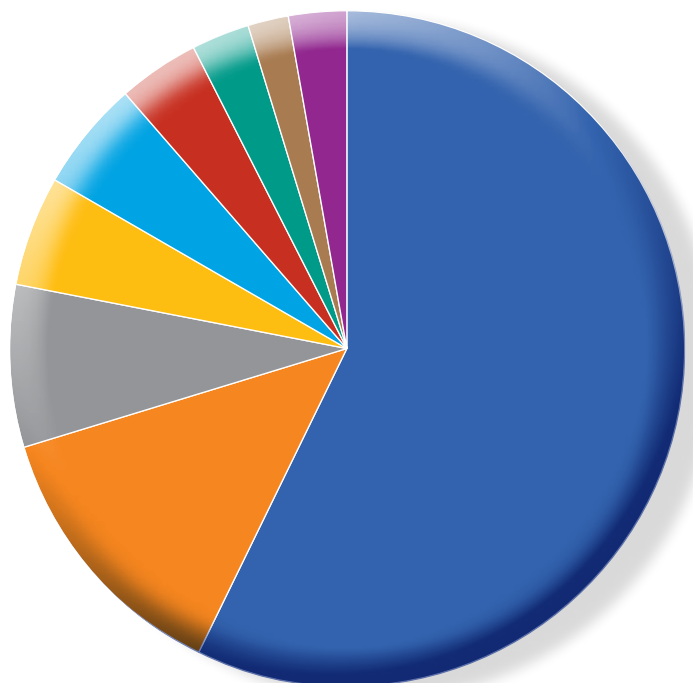- ■ Other – 4

Figure 1.

Clearly the failure to declare allergen, or labelling issues leading to incorrect information on allergens, dwarfs the other categories. This is surprising given that allergen management controls, especially those surrounding label information and packaging controls, has been made even more robust as the GFSI benchmarked standards changed to meet this challenge. Moving

the "failure to declare allergen" category aside, the next significant proportion of alerts have arisen from physical contamination issues, which, in turn, should make us all perhaps consider and revalidate current methods and effectiveness of techniques, and the equipment in place to identify and remove physical contaminants; from site fabrications controls, operation of effective metal detection system, magnetic separation techniques, better sieve and mesh controls, packaging and inspection procedures. The due diligence process represented by HACCP International's mark can be very useful in selecting equipment and materials that won't compromise food safety.

In terms of the overall picture of non-allergen related food safety alerts issued by the Food Standards Agency, in 2014 there were 15, in 2015 there were 63, in 2016 there were 88 and currently, to date, in 2017 there are 34, which, if the figures are assumed, for the purpose of this article, as a linear increase month by month, will put us on course for approximately 54 by the end of 2017. This represents an improving picture now and an end to a consistent year on year increase in numbers of alerts. Looking at allergy alerts the total figures are 25 (2014), 96 (2015), 93 (2016), and again making an assumption about a linear increase, 57 so far this year, putting us on course for 91 by the end of 2017, which, statistically speaking, is perhaps not a low enough figure to quote a genuine improvement from the situation in 2015 and 2016, yet.

This is a study in figures which may well be interesting to pick up again as we come to the end of the year 2018, particularly as some of the GFSI Standards move to the next Issue, including the BRC Global Standard for Food Safety which will be released soon as Issue 8. ❅

Take control of your
COLD CHAIN

Technology used to manage perishable food throughout the cold chain is evolving, primarily driven by the UN sustainability goal 12.3, which seeks to cut food loss and waste in half by 2030, and the Food Safety Modernization Act, which addresses risks to food safety and was implemented in the United states in April this year.

The Food and Agriculture Organization of the United Nations [FAO] estimates that 1/3 of all food produced globally is either lost or goes to waste – the equivalent of 1.3 billion tons with an associated cost of $930 Billion every year. The environmental impact of this is significant and will be a continual threat to our natural resources. The global population is expected to grow to 9.8 billion by 2050, requiring a 70% increase in food production to compensate, and this may even be underestimated.

Cool.it

The first software only system certified by HACCP International and the next generation of cold chain management system."

An increase in food production increases the risk of contaminated food. With roughly 600 million cases of food borne diseases worldwide and 420 million associated deaths, including 125,000 children under the age of 5 years (WHO, 2015), innovative solutions that address this risk are required.

Past studies have estimated that up to 12% of food loss takes place in the distribution channel. Moreover, 9% of all food loss can be attributed to inadequate refrigeration. Inadequate refrigeration can result in a risk to food safety, reduced quality, and increased costs associated with product recalls. Together these have an impact on brand value and a company's financial statement.

Mind the Gaps

There are several cold chain gaps that food industry businesses can address to rectify these alarming numbers.

Silo players: Autonomous businesses exist in the food supply chains today and each controls their own data ecosystem. This leads to a lack of transparency in data such as temperature, humidity, or specific product information. Lack of visibility into the producer's precool temperatures or the transporter's handling temperatures can lead to additional labor costs associated with the counter checks.

Complexity: Perishable products can change hands multiple times before they reach their destination and the risk for temperature abuse is present at each handling stage. Due to siloed data ecosystems, complete end to end transparency and product traceability in all control conditions has been a roadblock in the past, leaving relationships to work predominantly on trust.

Monitoring solutions: Due to supply chain complexity, it is unrealistic to expect a "one size fits all" solution when it comes to monitoring hardware. Independent data loggers also coexist with fixed monitoring solutions and can independently monitor the conditions of containers or pallets. The growing popularity of the "internet of things" has experts estimating that 20 million sensors could be used within the food and drink industry by the end of 2019. This will only add to complexity if each solution is not open in sharing data.

Incomplete Data Records: Many regulation bodies take the view that "if it's not recorded, then it didn't happen." Having complete data records has been a challenge due to individual silo ecosystems and multiple monitoring solutions. For example, we are currently missing out on valuable data captured through existing barcodes that can provide information on product provenance and shelf life.

Bridging the Gaps

Cool.it, the first software-only system to be certified by HACCP International, is a next generation cold chain management system, and part of a new business entity within Danfoss A/S.

Through an API (application programming interface), existing data silos are dissolved, enabling the collection and collaboration of data with preexisting temperature monitoring hardware/software solutions, so that investment costs are minimized. The open source design enables integration with future IOT innovations and changing market requirements.

Now, you can automatically collect all cold chain data (temperature, humidity, GEO etc.) within a single web portal, creating full transparency and allowing all stakeholders to share the same information, receive real time alerts if the temperature is abused, and have a fixed record of all decisions made, whether goods are rejected due to safety risks or redistributed to charity to reduce food waste. With the data, you can enable advanced data analytics, allowing you to identify and prevent potential food safety claims, monitor food loss and waste, maximize shelf life, optimize product flow, and reduce operational costs.

The Cool.it mobile app allows manual temperature registrations to be collected and stored alongside the automatic temperature history. It can also scan product and shipping barcode information, which can then be used to monitor shelf life and product information in the event of a recall.

For ease of use, all data is displayed in three simple views:

Temperature graph: The temperature rules and the product temperature are shown at every handling stage. In the event of temperature abuse, a record will be created identifying where and when it occurred, the total number of warnings raised, and the temperature and time over the specified limit – allowing you to make real time decisions and establish corrective actions.

Product Data: Automatically collected product data that identifies provenance, expiry dates to manage "first in, first out", and product information in the unfortunate event of a product recall.

Journey Overview: Create a historic record of each step of the journey with a time and date stamp. Know exactly where your products are at any point in time, so you can react quickly should the temperature journey not go as planned.

If you are managing temperature sensitive goods and looking to overcome todays cold chain challenges, then take advantage of our expertise in cold chain management. Together, we can take control of your cold chain. For more information about Cool.it and how it can revolutionize your cold chain, please visit www.Cool.it. ❉

If you have questions, please call Ian Jones at:
Ian Jones, ian.jones@cool.it
T : +44 (0) 7725 826 136

Which stainless steel grade is best for food manufacturing environments?

Stainless steel is a superior material to use in manufacturing equipment and it does actually stain less easily than other iron-based metals – but it is not completely stainless. Inevitably it will be marked by fingerprints and grease, develop discolouration and eventually rust. However, stainless steel can withstand more abuse before showing wear and tear than other build materials.

The benefit of using stainless steel over other metals is its innate ability to form a passive layer that prevents corrosion. The chromium which is found in stainless steel reacts with oxygen environments much the same as iron, which results in rust. However, only a very fine layer of chromium will oxidise and the chromium oxide is highly durable and non-reactive. It adheres to stainless steel surfaces and won't transfer. It is also self-renewing; if it's removed or damaged, more chromium will react with oxygen and replenish the barrier. Therefore the higher the chromium content, the faster the barrier repairs itself. Additional benefits of using stainless steel include:

- superior resistance to chloride;
- high and low temperature resistance – resists scaling and maintains high strength at high temperatures while also showing exceptional toughness at cryogenic temperatures;
- improved resistance to pitting and crevice corrosion;
- ease of fabrication;
- strength – the cold work hardening properties of many stainless steels can be used in design to reduce material thickness and therefore reduce weight and costs;
- aesthetically appealing;
- life cycle characteristics – stainless steel is a durable, low-maintenance material and is often the least expensive choice in a life cycle comparison.

Like all metals there are varying grades of stainless steel, each with a different alloy composition, which results in different physical characteristics.

To qualify as stainless steel there must be at least 10.5% chromium. Depending on the grade it may contain higher levels and additional alloying ingredients. The two most common grades are 304 and 316. The main difference is the addition of molybdenum, an alloy which dramatically enhances corrosion resistance, especially for more saline or chloride-exposed environments.

Understanding the difference between stainless steel grades 304 and 316

304 stainless steel

304 grade is the most common form used around the world because it still offers excellent corrosion resistance at an affordable price. It typically contains between 16 and 24% chromium and up to 35% nickel. The fact that it can withstand corrosion from most oxidising acids means its durability makes it easy to sanitise and it is suitable for kitchens and food applications. However, it is susceptible to corrosion from chloride solutions, which means if industrial cleaning agents are being used, for example in a factory or for clean down, then the longevity will be reduced.

316 stainless steel

316 grade has almost identical physical and mechanical properties as 304 stainless steel but the key difference is 2 – 3% of molybdenum. This addition increases resistance, particularly against chlorides, corrosive chemicals and industrial solvents. There are also improvements in steel resistance to pitting and crevice corrosion.

316 stainless steel is suitable for industrial applications involving processing chemicals, highly sterile factory environments, medical and pharmaceutical production as well as high saline environments such as coastal regions and outdoor areas. ❈

Contact details : APC Technology
www.apctechnology.com.au
Credit: What's New in Food Technology & Manufacturing

WITH GEN-F, YOU SNOOZE YOU LOSE

By Graeme McCormack,
Food Associates

The catch-cry of 'you snooze you lose' has relevance across all aspects of ambition and success, but never has it been more pertinent than in todays hyper-competitive business of food.

Whether you sit in the super-speed channel of fast casual dining, QSR or convenience food-to-go, or you're engulfed in the ultra-demands of FMCG, the need for all food businesses to stay alert, nimble, relevant and ahead of the pack through efficient and effective innovation programs and dynamic new product development is now more extreme than ever.

Put simply, if you're in the food game and you snooze on this aspect then you will most definitely lose, guaranteed.

So what's driving this need for constant innovation? Why can't a successful food business rest somewhat on its laurels for a period and bask in the glory of its 'genius'?

The rise-and-rise of the fast-casual Millennial foodie consumer, 18-35 year old males and females, and their on-going increasing expectations around the food they eat and the experience it delivers is what's driving this ever present need for change.

As an industry, we're no longer selling to consumers, we're selling to foodies, we're selling to 'Gen-F'.

In the past, the drivers which Gen-F have seen as being stock-standard include their food being fresh, flavoursome, easy, clean, modern, healthy and sustainable.

But now Gen-F expect a significantly heightened level of engagement with their food, one where it directly complements and enhances their personal interests and dynamic busy lifestyles.

To truly engage Gen-F their food experience needs to be educational, a journey, experiential, personable, instant, quirky, interesting, sexy, emotional, storytelling, international, fun, on-trend, on-line, nimble, interactive, communal, passionate, fashionable and social.

Gen-F communicate about their food not only by word of mouth to their friends, family and colleagues but more prestigiously and ferociously via mainstream social media to the masses.

So why does Gen-F predominantly use these digital communications? Because they're instantaneous. It enables them to simultaneously monitor trends and innovation whilst providing them with their own media channel through which they can showcase their personal food passion and knowledge, and impress others.

Food is no longer perceived by Gen-F as a simple commodity, it's now considered a lifestyle. Food knowledge and understanding has become a means by which a person can improve their own personal social credibility and status. It's very cool to know about food.

'Last month', food strategies were being created to accommodate the customers convenient access to innovation, freshness, provenance, sustainability and wellbeing. These are all now a 'given'.

'This month', casual dining and food-to-go strategies will be exquisitely engineered to meet and exceed the requirements of the high paced, infotainment urges, immediate interactive demands and 'FOMO' fears of Gen-F.

You're right, that's a hell-of-a-lot to pack into a 'simple' burger, sandwich or cake, but that's their expectation and, as such, that's the challenge and opportunity for food retailers and manufacturers alike.

Meet the challenge and you will convert the opportunity into success. Conversely if you don't, you won't.

As a food business owner or manager it's time to step-up or step-aside, because the demands of Gen-F won't be abating anytime soon.

The choice is simple, either engage proactively in an on-going program of dynamic food innovation and capture the hearts and minds of the burgeoning Gen-F market or sit passively and snooooooze your time away hoping that what you've done in the past will be good enough to sustain you in the future.

I know what our advice would be. ✲

GRAEME McCORMACK is the Managing Partner of Food Associates.

Based out of their interactive Food Innovation Hub in Sydney, Food Associates service many clients across foodservice and FMCG, including large and emerging franchise chains, multinationals, manufacturers and independent start-ups.

Though their Food Innovation Hub, Food Associates delivers practical effective solutions across a variety of complementary services, including insights and trend-led food strategies, food innovation and new product development, brand development and management, menu creation, marketing, creative design, packaging design, retail operations and training, retail concepts, manufacturing and supply chain.

Food Associates also has affiliate offices in New York, Shanghai and London. ✲

Contact : +61 (0)438666036
graeme@foodassociates.com.au

HACCP International releases a new
'WORLD'S BEST PRACTICE STANDARD'
for pest management services
for the food industry

By **Karen Constable,**
Technical Manager of HACCP International

One of the most significant issues effecting food safety is that of pest control. This subject is a major cause of food safety incidents, recalls, audit non-conformance and actions by state health departments.

HACCP International has just released a new standard that meets international best practice both in its development and in terms of the standard itself. It will make a huge contribution to reducing food safety incidents and can be used to ensure a consistently high standard of service, performance and outcomes in pest management and prevention within food handling facilities.

The new standard was developed by a committee of food manufacturers, retailers, auditors, pest management companies and HACCP International's food safety experts.

Clive Withinshaw, a director of HACCP International says, "This is a world first. There are number of guidelines around but guidelines are only that – guidelines. A standard allows for absolute performance measurement and can be used as a minimum criterion for food companies and pest management service providers. Food companies that operate HACCP based food safety management systems, especially those certified to GFSI-endorsed standards, need to give their contractors a precise set of measurable expectations and pest management organisations that are certified to this standard will be able to demonstrate their ability to deliver exactly that which is required.

The new standard is already proving to be a very useful tool for food businesses in International and around the world. It has been years in development and the very hard work put in by so many people will at last offer a real benefit to our industry and a reduction in food safety risk and non-conformances."

All pest management organisations certified by HACCP International will be audited against this standard after a transition period. New applicants will be audited to this standard henceforth.

BACKGROUND

HACCP International has been auditing pest management organisations and their on-site operations for the purposes of certification since 2002. The previous auditing standard included all the basics that a food business operating a food safety management system would expect of a pest contractor and was generally very well accepted by food safety auditors and food businesses. Some pest management professionals, however, found the lack of prescriptive requirements to be

unhelpful. There was a need for clear guidance around food safety requirements to pest professionals. Food businesses also needed guidance around best practices that they could communicate to their contractors and to their auditors.

It was time for a change!

In 2013, HACCP International began to develop a new pest management standard by completely overhauling the old standard. They began with the laborious process of collating feedback and researching best practice, followed by the production of multiple drafts, each submitted to stakeholders for review and feedback. Finally, after around 20 drafts, agreement was reached and the new standard was published.

The new standard aimed to directly address elements of good service practices which were implied but not explicitly described in the old standard. For example, the old standard required pest management organisations to have written procedures for pest management activities but did not provide any guidance as to what should be in those procedures and it did not explicitly require staff to be trained in or compliant with those procedures. Unfortunately, there were organisations that were taking advantage of that 'loophole'. Experience and expertise within pest organisations was another area that was not explicitly addressed, as was the level of supervision and oversight of technicians' activities on food sites.

> The standard is available at no charge to food businesses, pest management organisations and other interested parties. To download a free copy, visit the tools/download page of www.haccp-international.com"

The new standard contains more information to help pest professionals understand food industry expectations. It has been modernised to reflect recent changes in the pest management industry and in food safety standards, such as the growing use of electronic reporting and more stringent requirements for monitoring and analysis. In addition, it was developed with the input of many stakeholders, which makes it robust and fair, as well as making it suitable for use within a JAS-ANZ accredited ISO 17065 certification scheme.

OVERVIEW of CHANGES

The new standard includes a number of new requirements. Most of these have been added to better define and describe current best practice for pest management services for food businesses and to provide guidance for service providers and food businesses. Pest management organisations that are currently certified by HACCP International are already compliant with the most of the new requirements, with the exception of a change to what is required for approved chemical lists and a completely new requirement to conduct internal audits. Internal auditing is not currently practised by some certified pest management organisations and those organisations will need to create and implement new systems to be compliant with the standard.

> All pest management organisations certified by HACCP International will be audited against this standard after a transition period. New applicants will be audited to this standard henceforth."

The new standard explicitly defines which types of food sites should be audited and provides options for provisional certification pest management businesses that do not have sufficient food customers to obtain full certification. Guidelines for classifying non-conformances and timeframes for closing out non-conformances are included to aid transparency and communications between pest professionals and auditors. Alternative means of complying with the intention of the standard are explicitly allowed, if they are judged to be suitable and effective. There is a new audit checklist and reporting format.

TIME FRAMES FOR COMPLIANCE

The standard is being implemented over a two year transition period, which started 1st March 2017, for currently certified pest management organisations. During the transition period, compliance to the 'new' standard (Issue 2.0) will be assessed and reported to auditees but non-conformities will not be raised. Conformance with the 'old' standard (Issue 1.3) will continue to be required for re-certification until 28th February 2019.

From 1st March 2019, re-certification audits will be conducted against Issue 2.0 and compliance with Issue 2.0 will be required for all pest management organisations that wish to be re-certified. New applicants for certification are assessed against the requirements of Issue 2.0.

What hasn't changed
- The new standard is voluntary, like its predecessor
- It is used to evaluate the services of pest management organisations on a branch-by-branch basis for the purposes of certification
- The audit processes and certification processes are unchanged

New requirements explained

Technical expertise

Technical expertise is explicitly addressed for the first time

in this standard. The new requirements are not onerous; they reflect current industry practices and should not require any significant changes to current operations for certified pest management organisations.

Treatments on food sites

The requirements for treatments within the new standard are similar to the old standard; they require that pest management activities on food sites must be performed without contaminating food, food equipment and food packaging materials. The new standard, however, includes extensive guidelines accompanying which define best practice for performing treatments in food handling areas. The guidelines were developed with significant discussion and input from the pest management industry and have been agreed upon by a committee of stakeholders.

Register of approved chemicals

Under the new standard a pest management organisation's register of approved chemicals (or approved products list) should distinguish between chemicals approved for use in food handling areas of food sites, other areas of food sites and non-food sites. To meet this requirement, most currently certified organisations will need to make changes to their registers.

Equipment and devices for use in food handling areas of food sites

Requirements for the physical characteristics of equipment and devices, such as rodent bait stations, their procurement, as well as their siting and labels are explicitly addressed for the first time. The new requirements closely align with current industry best practices and should not require any significant changes to current operations.

Internal auditing by pest management organisations

Internal auditing was not required of certified pest management organisations previously. Significant risks to food safety, however, existed in some operations that were not subject to appropriate oversight. The new standard requires pest management organisations to conduct formal reviews of operations ('internal audits') at each HACCP-level food site at least once every 12 months.

Formal training plans

Formal training plans were assumed but not explicitly defined previously. The new standard reflects industry best practice and most currently certified organisations should not need to make any changes to their current activities to meet the new requirements. However, for those not operating to best practice, the new standard does raise the bar on what is expected in terms of induction training, on-going training and records. A list of scheduled tool box talks just won't cut it anymore!

The standard is available at no charge to food businesses, pest management organisations and other interested parties from : www.haccp-international.com.au/tools-downloads/

HACCP International's auditors and certification team look forward to helping all certified organisations get ready for the new standard. Every audit between now and March 2019 will include feedback on what needs to be done – if anything – to prepare.

Certified organisations can contact HACCP International any time for help with the new standard or info at haccp-international.com

For a list of certified organisations, or to become certified, contact us.   ❃

10
MINUTES WITH
FOOD ASSURANCE EXPERT
RICHARD WERRAN

BSI's new EMEA Director for Food, Richard Werran tells us what's new in food assurance, shares his plans for his new role and reveals what he thinks is today's priority for the food business.

What's your background within the food industry?

I've been working in the food and beverage industry for more than 37 years' and have expertise in food production, ingredients, food assurance, training and certification with specialist knowledge of GM issues.

Prior to joining BSI, I was Managing Director of Cert ID Europe, along with its sister company Foodchain ID, where I helped to build the company from a start-up into an accredited certification body for BRC global standards. In the field of non-GM, I was responsible for establishing Cert ID Non-GMO Standard as the class leading, market dominating Non-GMO industry standard in Europe and SE Asia. I'm also a Fellow of The Society of Food Hygiene & Technology and The Institute of Food Science & Technology.

Tell us about your new role at BSI…

I'm delighted to join the leading business improvement company, BSI (British Standards Institution) as EMEA Director for Food as part of the international organization's commitment to meet increasing demand for standards, certification and assurance from the food industry.

How is BSI planning to grow its food offering and support organizations?

BSI is scaling its food sector training and certification success in Asia and Pacific to Europe, Middle East and Africa, providing the full suite of ISO third party certification schemes. This includes Global G.A.P, FSSC22000 and BRC Global Standards as well as BSI's HACCP & GMP certification. New food safety and fraud intelligence and assessment management modules, launched by BSI's Supply Chain Risk Exposure Evaluation Network (SCREEN), also feature.

This reinforces BSI's existing offering in this area with over 800 standards relevant to the food and drink industry covering food safety, packaging and processing, and chemical, microbiological and sensory analysis. BSI also provides assessment and certification for food safety management systems, and food safety risk management.

What do you think are the opportunities for food businesses?

It's essential for the food industry to think in innovative ways and discover for itself that many of the issues it has experienced - food safety and quality, years of broadening risk assessments, risk mitigation and risk avoidance – are, in fact, opportunities.

Organizational Resilience is at the core of BSI's strategy, to assist businesses in all sectors worldwide, including the food industry to develop business, advance market position, and enhance long-term prospects. Today, the food sector is exposed to risk, due in part to a legacy of issues and setbacks stretching back many years; Organizational Resilience enables food businesses to convert risk into opportunity and become agile to gain competitive advantage.

This refreshing forward-looking approach is at the heart of the new BSI EMEA Food team's approach, with two Food Business Leaders conferences to be held in London and Asia later this year to introduce Organizational Resilience.

How do you know HACCP International?

Over the years, I have worked with HACCP International and its related company, GMO-ID Australia. During that time I noted how their product certification scheme fitted well within the food industry, satisfying the due diligence requirement in equipment and materials that have a significant impact on food safety. ❋

About BSI

BSI (British Standards Institution) is the business standards company that equips businesses with the necessary solutions to turn standards of best practice into habits of excellence. Formed in 1901, BSI was the world's first National Standards Body and a founding member of the International Organization for Standardization (ISO). Over a century later it continues to facilitate business improvement across the globe by helping its clients drive performance, manage risk and grow sustainably through the adoption of international management systems standards, many of which BSI originated. Renowned for its marks of excellence including the consumer recognized BSI Kitemark™, BSI's influence spans multiple sectors including Aerospace, Automotive, Built Environment, Food, Healthcare and ICT. With 81,000 clients in 181 countries, BSI is an organization whose standards inspire excellence across the globe.

To learn more, please visit www.bsigroup.com

bsi.

Two jailed
and another sentenced
as the horsemeat scandal comes to court

- **Judge describes case as "a web of intrigue" as horsemeat fraudsters sentenced at Inner London Crown Court following three-week trial**
- **Sideras convicted of adding horsemeat into beef destined for the human food chain**
- **Result follows investigation by the City of London Police and the Food Standards Agency**

On Monday 31 July 2017, Andronicos Sideras, 55 of Southgate, London was sentenced to four and a half years for conspiracy to defraud with a ban from being a company director for 10 years after he was convicted of adding horsemeat into beef destined for the human food chain. The verdict was reached following a three-week trial at Inner London Crown Court.

Ulrik Nielsen, 58 of Gentofte, Denmark, was also given three and a half years custodial with a ban from being a director for 10 years.

Alex Beech, 44 of Sutton on Hull, Humberside was given an 18-month sentence, suspended for 12 months, with a ban from being a director for five years and 120 hours community service.

In 2013 the Food Standards Agency (FSA) asked the City of London Police to investigate. The investigation centred around meat trading company Flexi Foods, with UK offices in Hull, and was owned by Ulrik Nielsen based in Denmark. Alex Beech was the UK representative of the company. Flexi Foods passed numerous consignments of meat through Andronicos Sideras' company, Dino's and Sons based in Tottenham, a food supply company and sausage manufacturer.

Alex Beech was arrested at the Flexi Foods offices in Hull in July 2013. Ulrik Nielsen was later detained in Denmark, and then attended the UK for police interviews in Hull.

During searches of the Flexi Foods company offices, both in Hull and Denmark, emails and other documents were

uncovered evidencing the conspiracy to deliberately introduce horsemeat into the food chain in order to increase company profits. Other material evidence was also seized at Dino's and Son's premises in London.

In July 2013 Andronicos Sideras of Dino's and Sons was also arrested. His fingerprints were later found on pallet labels attached to a consignment of mixed horse and beef meat detained in Northern Ireland. These pallet notes were deliberately altered to ensure that anyone checking the containment thought it was 100% beef, when in fact tests showed it was approximately 30% horse. Other loads had replicated this mixing pattern between July and November 2012.

Inspectors examine meat adulterated with horse.
Photograph: City of London police

The complex investigation involved enquiries in Denmark, Ireland, Poland, France, Holland and Italy. Officers also sought advice from all sectors of the food industry from farming and distribution through to slaughter and wholesalers. The investigation discovered that during 2012 Nielsen and Beech were buying horsemeat from Ireland and sourcing beef from Poland. This meat was then all delivered to Dino's and Sons premises in Tottenham. Here Sideras would oversee the mixing of these different meat consignments, and would then apply false paperwork and labels to make it look like all the meat was 100% pure beef. The disguised products would then be sold on as beef without the buyer being aware of any horse meat having been introduced.

Mixing in cheaper horsemeat to the beef allowed Flexi Foods to increase the profit on each consignment by approximately 40%. The type of meat in question is known as "trimming" and is used in products such as minced meat, sausages, pies and ready meals.

On the 26 August 2016 Sideras, Beech and Nielsen were charged with conspiracy to defraud.

Detective Constable Stephen Briars, the officer who led the case for the City of London Police's Fraud Squad said:

"This is a clear case of fraud; the fact that the case revolves around meat and the food chain makes no difference to this crime. A lie is a lie whatever the circumstances.

"These three men set out to deceive the suppliers, retailers and ultimately the consumer so that they could make more money.

"This case has involved a real team effort with staff from the City of London Police, working closely with our partners from local authorities, the Food Standards Agency, and the food industry to gather the evidence necessary to prove this unique and challenging case." ❊

Frozen meat adulterated with horse intended for burgers.
Photograph: City of London police

Uniforms should be
an **integral part**
of a food plant's HACCP program

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.

T he importance of product safety in any food operation is paramount but it must be acknowledged that this comes at a price, as regulatory compliance and sanitation steps ultimately impact the bottom line.

Flexibility in addressing identified hazards is inherent in effective HACCP programs, as it permits processors to select the appropriate control measures in the context of how the whole system functions, allowing processors to use the most appropriate and economical methods.

Out of the top 10 common food handling practices causing food poisoning, both cross contamination and infected persons can involve employee uniforms and garments.

While uniforms and garments are not likely the weakest link for a business in which food safety is imperative, operators should recognize the risks of improper care, cleaning and handling. Good personal hygiene is also essential to ensure food safety.

One of the general sources of contamination are the dirty aprons, smocks, wiping cloths and contaminated uniforms.

In the food processing industry, highest hygiene and bacteria control is the No.1 priority.

Companies and employees should follow specific guidelines to ensure food safety as:

- Uniforms, aprons and garments should be clean at the beginning of each shift and changed regularly when necessary

Following SSOPs in a HACCP program has to be included to ensure every step of the process guards against cross contamination:

- Wash formula and temperature
- Detergents
- Drying
- Training

In summary a uniform laundry program with well established SSOPs is an essential component of a comprehensive HACCP program. In addition to good personal hygiene, proper care and laundering of uniforms is essential to food safety.

Easy downloading and uploading of programs with Laundry Program Manager. Create custom programs on your PC, transfer to machines via memory card or USB port.

By selecting the right uniform and laundry suppliers can be a simple but effective way to increase plant hygiene and reduce cross contamination. There are many systems that can be implemented to make it easier for workers to perform their jobs in a safe, secure and sanitary manner – and pay dividends in the long run.

In-house laundry helps to reduce the product rejection, product recall, food contamination incident and reducing costs compared to outsourcing.

Electrolux Professional can support and understand that uniforms can be a potential point of cross contamination to any food processor and should be an integral part of a plant's HACCP program. ✳

**For further information
please contact us:
E: els.info@electrolux.com
www.professional.electrolux.com**

Electrolux

Safe food processing starts with your food plant employee uniforms

Electrolux, the first HACCP International certified laundry manufacturer worldwide

Electrolux's Professional Line 5000 is uniquely efficient. Not compromising on quality, we can also help lower operational costs and cut down the environmental footprint. More importantly, it keeps **hygiene factors under control and thoroughly washes away bacteria**.

i.e. Cost of doing processing in house is less than 1 €/Kg

Ultimate durability
‣ Achieve quality washing operations in heavily regulated industries
‣ Up to 30.000 cycles and over 7.000 expert technicians

Cost efficient
‣ Reduced water, energy and detergent costs
‣ Reach up to 50% water saving: the automatic saving system determines the load weight and adds the correct amount of water
‣ The Efficient Dosing System calculates the exact amount of detergent according with the washing load

Smart features
‣ Customised programmes and wash processes for ultimate hygiene and cleanliness
‣ Validation reports

Avoid cross contamination of surfaces
‣ Use **Electrolux myPRO** to clean mops with high quality hygiene results.

For further information contact us:
Electrolux Professional
Email: **els.info@electrolux.com**
www.professional.electrolux.com

@ElectroluxPro

Electrolux Professional

Electrolux
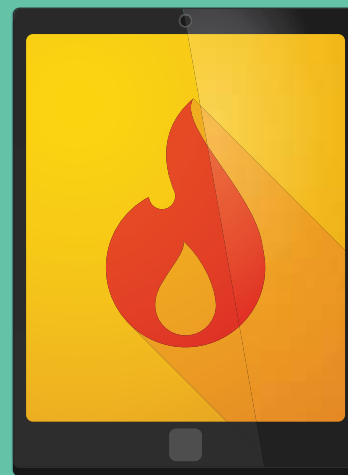
HOT LINKS

Micropia
www.micropia.nl

Micropia in Amsterdam is the world's first museum dedicated to microbes and micro-organisms, which actually make up two-thirds of all living matter....living on your eyelashes and the even smaller bacteria and viruses living on those mites!

A collection of every food safety article known?
www.barfblog.com

Image a man who scans the globe on a daily basis collecting and referencing food safety articles. Does such a man exist? Can such a man dedicate his every waking minute to food safety? Yes ! Meet Dr Dough Powell.

Food Challenges
www.foodchalllenges.com

Find every food challenge currently available in every country. Learn every food challenge and competitive eating tip you could ever want to know.

Food that is strange
www.weird-food.com

When the 'five food groups' include Mammal, Reptile, Amphibian, Bug and Minerals, you know you are in for some interesting browsing. And possibly a recipe or two for your next dinner party !

Better than a shoe phone
www.phonevault.com

What could be better than Maxwell Smart's shoe phone? Food phones for food techs! Genuine telephones in the shapes of food from bread sticks to various vegetables.

World Health Organisation
www.who.int

Where all food safety roads eventually lead! – Take a short cut – a wealth of data in their fact sheets. ✳

FACTERIA
Campylobacter

Campylobacter is a common bacterial infection that causes abdominal pain and diarrhoea. In Australia and many other developed countries, it is the second most common form of food poisoning. Campylobacter gastroenteritis is a type of food poisoning caused by the bacteria Campylobacter jejuni and Campylobacter coli. known simply as Campylobacter. Sensitive population groups such as children and the elderly are more susceptible to Campylobacter infections and the symptoms are usually more serious although it can harm anyone regardless of age or fitness.

The most common symptoms of Campylobacter infection are diarrhoea (often very severe), fever, stomach cramps, nausea and vomiting.

The bacteria is found to have a long gestation period before the onset of illness. It most commonly takes between two and five days before one becomes ill. This can sometimes make tracking and elimination of the cause quite difficult. Furthermore, the time span allows for significant intermediate spread of the disease.

Complications can include meningitis, urinary tract infections, and possibly reactive arthritis (rare and almost always short-term) and occasionally Guillain-Barre syndrome, an unusual type of paralysis. While most people who contract campylobacteriosis recover completely within 2 to 5 days, some Campylobacter infections can be fatal, resulting in a number of deaths each year.

Digestion is the by far the most common way of contracting infection. The Campylobacter bacteria are most commonly found in animals such as poultry, birds, cattle and household pets. Campylobacter bacteria are often present in uncooked meats, particularly poultry and a lack of adequate cooking is the most common reason for illness. Incorrect pasteurisation also presents a high risk as does cross contamination between cooked and uncooked meats.

Sufferers from Campylobacter infection have the bacteria in their faeces and this emphasises the need for the implementation of hygiene policies, especially hand washing, in food and beverage handling facilities. This is especially important as humans and animals can carry Campylobacter in their faeces without displaying any symptoms.

Campylobacter infection must be reported to a doctor immediately to ensure appropriate treatment and further advice in halting the spread of the disease.

Child care workers and health care workers with Campylobacter infection must not work until symptoms have stopped. Remember food handlers who suffer this or any food bourne illness need a medical certificate prior to returning to work. ❋

Fiji gears up to meet world's best practice in food safety
as HACCP International extends footprint in the Pacific

The Pacific Island nations are characterised by deep Melanesian and Polynesian cultures and developing economies. Many of these nations are described as unspoilt paradises and in this diverse market, HACCP International has opened a permanent base. HACCP Australia (Fiji) Ltd is based in the Fijian capital of Suva and employs a mix of local and international staff. Director, David Haberfield says, "We were constantly responding to opportunities from our Australian offices and over time it became clear that the market was significant for us and that the best way to respond was to open a local office in this area. Our presence shows a strong commitment to the region and has been very well received by business, government and trade development organisations alike."

The market development strategy has been underpinned by forming strong relationships in the region, the most recent being a formal agreement with PIPSO in May of this year.

The Pacific Islands Private Sector Organisation (PIPSO) met with HACCP Australia (Fiji) Ltd at the PIPSO Office in Suva where they jointly signed a Memorandum of Understanding (MOU). Under the MOU, both PIPSO and HACCP Australia (Fiji) Ltd will work together to assist companies in the Pacific that wish to attain HACCP certification for their products that are to be sold domestically and internationally.

Pacific based companies and organisations will benefit from the joint efforts of PIPSO and HACCP Australia to actively assist them in meeting and maintaining HACCP based Food Safety Management Programme objectives in a cost effective and consultative manner. This will be done through the provision of expert technical resources, guiding tools and resources as well as awareness to local businesses of the benefits and methodology of HACCP certification.

Signing the MOU (from left) PIPSO Chair – Mr. Howard Politini, HACCP International Director – Mr Martin Stone

The collaboration is based on a genuine spirit of partnership in which both organisations will enhance and complement the efforts of the other whilst strengthening their own areas of expertise and skill.

Positive impact on Pacific businesses will be further magnified by both PIPSO's network and support combined with HACCP Australia (Fiji) international expertise and networks. This partnership is essential to assist businesses to meet opportunities under various trade agreements and export initiatives. While trade agreements open markets, complying with market entry requirements like HACCP certification is crucial. This partnership will further explore how HACCP assessment and certification costs can be reduced by working with clusters of businesses and the engagement of local expertise who have been thoroughly trained in Food Safety Standards.

The MOU outlines several areas of collaboration and support between PIPSO and HACCP Australia as well as core activities that will be jointly undertaken.

The MOU was signed by PIPSO Chair Mr. Howard Politini and HACCP Australia (Fiji) Ltd Director, Mr. Martin Stone and both parties expressed a strong desire to develop the relationship and related markets into the future. ✳

HACCP International Team in Fiji. (from left). Ms Apiame Cegumalua – Senior Project Manager HACCP Australia (Fiji) Ltd, Mr David Haberfield – Director HACCP Australia (Fiji) Ltd, Mr Martin Stone – Director HACCP International.

For more information please visit: www.haccp.com.fj

'Naturalness'
as a success factor

By **Norbert Staub**

'Naturalness' is a construct – but according to a new study from the ETH Consumer Behavior group, a product's success on the food market is primarily defined by whether or not consumers perceive it as natural.

The increasingly artificial and virtual nature of everyday life has now achieved broad acceptance, and the benefits that technological development bring to everyone cannot be denied. But when it comes to groceries, the trend is in fact the opposite: consumers are more and more sensitive on the subject of food. In Switzerland, the fear that food could contain foreign substances or be misleadingly or falsely labelled is currently causing an uptick in complaints to the Foundation for Consumer Protection and putting a strain on the laboratories responsible for federal monitoring of foodstuffs.

The authenticity of the food on our plates plays a key role in acceptance and perceptions of quality. This is also the conclusion drawn by a broad-based review study by ETH Professor for Consumer Behavior Michael Siegrist. Together with Spanish colleagues, he recently published the study in the journal Trends in Food Science & Technology.

A vague yet relevant term

"The importance of naturalness for foodstuffs is of great practical relevance, yet it has never been the subject of in-depth research," says Siegrist. One key topic is to what extent products themselves are perceived as natural. Another is the question of what in fact is associated with the term "natural". The latter issue, however, is difficult to determine, and was not the subject of this study; publications on this topic have been few and unconvincing.

From the initial 1,000 scientific articles, the researchers eventually selected 72 that related to the research questions and could be compared with one another. The meaning of naturalness was measured according to three main categories: how was the product grown? (E.g. organically or in the local region). How was it processed? (E.g. presence or absence of additives, colourings, flavourings and hormones. And another aspect: the degree to which a product has been processed – the lower the better, in the consumer's opinion). And lastly: how natural does the final product appear to end consumers? Keywords here: health and taste, freshness and ecological focus. "Naturalness" may seem like a cohesive term, but the study reveals that it is in fact highly abstract and evokes extremely varied associations.

Strongly weighted naturalness

What is the most surprising finding from the study? "It's notable that all the studies conclude that popularity among a majority of consumers is closely linked to how natural a product is perceived as being. This was true for 85,000 participants from 32 different countries across a period of around 20 years," says Siegrist. However, it's worth noting that all of the studies were carried out in relatively wealthy industrialised countries in Europe, Asia, America and Oceania. In developing and emerging market countries, heavily processed products may be perceived more positively as they are expensive and thus associated with social prestige. The same inquiry might well produce the opposite result there: a lower status given to "natural" foodstuffs and a higher one to industrially produced products, suggests the ETH professor.

A challenge to industry

When analysed in detail, the comparison shows that older people and women are more concerned with naturalness than young people and men, and that consumers who prefer organic products place particular importance on the naturalness of foodstuffs. This also seems to be the case for individuals who focus on traditional, sustainable, healthy and organic products when shopping. It should therefore come as no surprise that the study links an inclination towards naturalness with negative attitudes towards technological innovations in the food industry.

This point led the researchers to their key conclusion: companies working with innovative food technologies – keywords: in vitro meat and 3D-printed foodstuffs – need to keep the naturalness factor in mind. "Even though human perception is clearly subject to certain distortions, the key role that authenticity plays in the acceptance of foodstuffs is a fact. This means that products which are perceived as artificial will not be accepted by consumers in future either," argues Siegrist. In order to be successful, food producers must therefore satisfy the sometimes contradictory demands of consumers. For example, they need to persuasively link food safety and closeness to nature – and do this at an early stage of the product development process. ❉

Reference: *Roman S, Sanchez-Siles L, Siegrist M. The importance of food naturalness for consumers: Results of a systematic review. Trends in Food Science & Technology, Volume 67, September 2017, pages 44–57 DOI: 10.1016/j.tifs.2017.06.010*
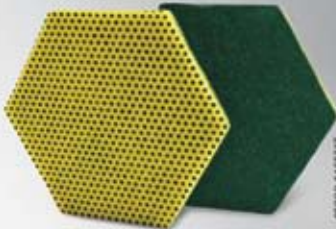
FACT

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
SIX SIMPLE MACHINES
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
SOAKTECH

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)
LIVINGSTONE INTERNATIONAL
PARAMOUNT SAFETY PRODUCTS
PELGAR INTERNATIONAL
PRO PAC PACKAGING
RCR INTERNATIONAL
STEELDRILL WORKWEAR & GLOVES

FACILITY FIXTURES, FLOORING AND FIT OUT,

AM TECHNOLOGY - AIRLITE (I)
ALTRO SAFETY FLOORING & WALLING (I)
ARGELITH BODENKERAMIK (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
ROXSET

FACILITY FIXTURES, FLOORING AND FIT OUT CONTINUED

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

LABELS - FOOD GRADE

LABEL POWER
OMEGA LABELS
W W WEDDERBURN

MAGNETS

AURORA PROCESS SOLUTIONS
INDUSTRIAL MAGNETICS
MAGNATTACK GLOBAL (I)

MANUFACTURING EQUIPMENT COMPONENTS & CONSUMABLES

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

PEST CONTROL EQUIPMENT AND MATERIALS

ANTICMEX
BAITSAFE
BASF (I)
BAYER (I)
BELL LABORATORIES INC (I)
ECOLAB
LODI GROUP (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
HICARE
ORIGIN EXTERMINATORS
RENTOKIL
SCIENTIFIC PEST MANAGEMENT
STAR PEST CONTROL
WG GENERA PACIFIC (FIJI)

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

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

BRILLIANT SOLUTIONS FOR COMMERCIAL KITCHENS

The first HACCP International approved ventilated ceiling for professional kitchens

Modular ventilated ceiling

Sound absorption ceiling

Individual lighting with LED technology

As part of the kitchen fittings the HACCP-certified GIF Modular Ventilated Ceiling provides you with the opportunity to design your entire kitchen according to HACCP standards and with essential characteristics:

- 100% active ventilated surface, wall to wall system, space-saving installation with 200 to 250 mm hight

- Ergonomic friendly system: Draught-free environment due to the GIF technology

- Exhaustive, simple and cost-saving cleaning, all modules are easy to clean in a dishwasher

- Saving of costs: no differentiated duct system for extract and supply air required

- Durability of the AISI 304 stainless steel components

- Fire prevention: all ceiling flash-over-proof

- Energy saving by detecting real cooking operations and adapting the airflow accordingly

GIF ActiveVent