HACCP INTERNATIONAL FOOD SAFETY CERTIFICATION PROGRAMME

HACCP INTERNATIONAL

FOOD SAFETY BULLETIN

ISSUE 4 2011

DISHWASHERS
From concept to Champion's AS-F range

E.coli
Friend or foe?

BEST BEFORE
"What a waste"

BRC
A guide to Issue 6

CHAMPION®

Produced by HACCP International, a leading provider of food safety services - www.haccp-international.com

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Welcome

I am very happy to introduce the 4th issue of HACCP International's Food Safety Bulletin. It is fast becoming a staple on the desks and shelves of food scientists, QA managers and buyers in the food industry. We are delighted it has attracted interest from a diverse readership, all of whom have food safety in mind. Thank you for your support.

Clive Withinshaw - Director, HACCP International

In this issue, we address the key topic of compliance once again. This is an important subject that we cannot 'under do'. At the BRC Global Conference this year David Brackston provided an insightful look into the changes from Issue 5 to Issue 6 of the BRC Global Standard for Food Safety. David has provided Richard Mallett, Director of HACCP Europe, an overview of how Issue 6 was developed, the priorities and objectives in producing it and an explanation of the key developments of the scheme.

Another key topic is that of 'contract cleaning'. This is a subject which will have broad interest as many companies agonise over the 'in-house' versus contractor equation. It is a thorny issue in the food business. Sub contracting these tasks often sees external firms taking on key components of a HACCP programme and to some extent taking all care without the responsibility at least in terms of a food safety auditor's findings! A 'due diligence' process is very important in the selection process. Many contractors claim to be able 'to do the job' but, in truth, we find that very few are really aware of HACCP based food safety schemes and the implications attached and fewer can provide a service backed with complementary systems and a deep understanding. Those that do 'get it' have all shown a real commitment to this sector and have had to invest in training, documentation and management systems to support it. In the last six months, we have certified a number of cleaning contractors which do 'get it' and their ability to meet the needs of the food industry is both outstanding and obvious.

Congratulations to the Dyson Airblade™ for winning the FOOD SAFETY and INNOVATION IN NON-FOOD award in Australia

Since our last issue, the GFSI (Global Food Safety Initiative) has held its fifth annual conference in London and as its chairman, Jürgen Matern said in the opening address, 'The Initiative has established itself as a major global force in driving the continuous improvement process in food safety management systems and reducing food safety risks through third party certification and the use of recognised food safety schemes'. Benchmarking and food safety scheme endorsement is now becoming a reality and they are committed to addressing auditor competence in the coming years. It's worth keeping up to speed with the GFSI at www.mygfsi.com

A number of excellent food safe items have been through our hands in recent months as they went through our certification process. GIF Hydria from Germany have demonstrated an excellent ventilation system which is particularly appropriate for food production facilities, Champion submitted excellent dishwashers which meet all the key temperature, time and safety features as well as cleaning and sanitiser products. Kimberly Clark has had a significant range of towels, wipes, soaps and dispensers that they distribute in the Asia Pacific region certified by us. These are all food safe and very appropriate to the food industry. A range of Hoshizaki's ice machines has undergone the process as well. The Hoshizaki products are truly excellent and are designed and perform with food safety in mind. The Dyson Airblade™ which carries our certification has recently won the FOOD SAFETY and INNOVATION IN NON – FOOD award at the 7th Annual Australian Food Challenge Awards hosted by Food Magazine.

If you have some food technology news that you would like us to consider for publication, please feel free to submit it to us for consideration. Our bulletins are distributed globally with 20,000 copies hitting a highly targeted readership over a year with many more being read on-line. Equally, if you are looking for a food safety certificate of conformance for products designed to support the food industry, we would of course be delighted to hear from you. Such certificates of conformance are in increasing demand and our mark is designed to identify the very best.

HACCP INTERNATIONAL FOOD SAFETY PROGRAMMEN 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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HACCP INTERNATIONAL NEWS

HACCP International Conference 2011

Each year, key members of the HACCP International team congregate for 3 days of information sharing, calibration and work shopping ideas for business and service improvement. One feature of the conference is our on-going system of continuous learning. Individuals in our various regional teams have significant expertise in specialist fields and participate in a system we call our "Internal Experts". That 'expert' is charged with the task of staying at the cutting edge of a particular and relevant field and, as well as being the 'go-to' expert, disseminating key information to the organisation as a whole. This system has the benefit of always broadening our team's knowledge and deepening that of the internal expert, making sure we maintain our position as a leading food safety organisation.

Another issue under the microscope was that of service providers to the food industry, especially those undertaking key components of a HACCP programme as is often the case with pest service providers and contract cleaners. HACCP International has a certication scheme for such services but certification has proven to be difficult to achieve in these fields. While no compromise can be made in terms of requirements, we did undertake to station more staff in additional key markets to assist applicants with the process.

Auditing – The Boot is on the other foot for a change!

It might be of some comfort to our readers to know that it is not only your business that goes through an audit process. HACCP International has recently undergone a JAS-ANZ audit as part of its product certification accreditation process. With three auditors on site for two full days, it is as an extensive process as any BRC audit! Those in the office were able to witness the process first hand and sweat on the outcome and non conformance requirements. As it happens we did well even though we have a number of non conformances - which we will close out on time! We just thought some of you might enjoy a sense of schadenfreude in that!! (JAS-ANZ is the Joint Accreditation Service – Australia New Zealand and sits as an Accreditation Body Member on the International Accreditation Forum (IAF). It is not dissimilar to UKAS, ANSI or RvA as a recognised accreditation body).

New faces and international representation

With offices now well established in UK, Hong Kong and Australia, HACCP International has opened two more regional offices. David Tan Heng Piu joins our Asia team based in Singapore and comes to us with a distinguished career and well respected background in food safety. With our growing presence in the Asia region, we are now well placed to meet the needs of our clients in Singapore.

Ravinesh Chand joins our international team based in Fiji. He is an experienced auditor and HACCP practitioner with a wealth of production experience in beverages and food service. The Fijian hospitality market is well known but a strong export supply market for beverage and seafood also exists in the region.

David Tan Heng Piu
Singapore office

Ravinesh Chand
Fiji office

Amanda Everington-Nee
UK office

We also welcome Amanda Everington-Nee who is the newest member of the HACCP Europe team and joins in the role of 'Research Manager', working alongside Colin Clarke in developing the business across Europe for non-food certification.

Bill Simos on the Speaking Circuit

Senior HACCP International staff engage in a number of international food industry conferences and trade events. In recent months, Bill Simos, Managing Director of HACCP Asia has been very active in this regard, speaking at a number of key events including the 'Beyond Agriculture' conference in Shanghai, a forum that discussed pest control in our industry and the important issues of associated chemical risks and solutions. Bill also presented a paper at the first US-China Food and Drug Law Meeting entitled "US-China Food and Drug Law: Ensuring Quality, Improving Safety, Expanding Access". 250 food and drug law professionals took part in an historic conference in Beijing – a real boost to industry co-operation and understanding.

Bill Simos, Managing Director, HACCP Asia

Bill will be speaking at key meetings in Singapore, India and Hong Kong in the course of the next couple of months. Do let us know if you want to catch up with Bill on his travels through India and South East Asia. (bill.simos@haccpasia.com).

Food Challenge Awards

In July, we were proud to sponsor an important category in the Australian Food Challenge Awards – Food Safety and Innovation in Non Food products. A number of truly excellent products that support the food industry, and carry the HACCP International certification mark, were reviewed by a highly qualified judging panel. The finalists included Activeion, BASF, Altro Flooring, Baxx, Testo, and Schütz. Congratulations to the winner, The Dyson Airblade.

DISHWASHERS

From concept to Champion's AS-F range - 161 years of development

The first dishwasher was invented in 1850 by Joel Houghton. The machine was wooden and was operated by a hand-turned wheel. The wheel simply splashed water over the dishes in the box! It was not really a working machine, but it was the first patented dishwasher. After the introduction of this dishwasher, advances began coming quickly. L.A. Alexander patented a device in 1865. This machine also used a hand-crank which was used to spin a rack of dishes through splashing water. Again, this did not do much to clean the dishes, but it was advancement. However, these machines were manually operated and not practical.

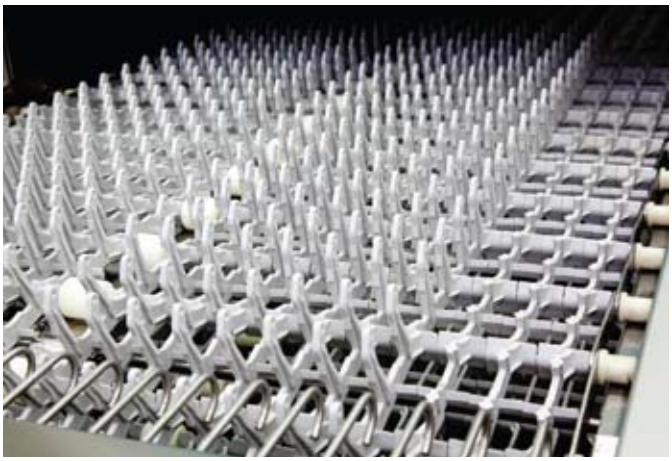
In 1886 a wealthy US woman, Josephine Cochrane (being the granddaughter of John Fitch, who built the first steamboat in the USA), patented a device that was motorised, fitted with a boiler and sprayed very hot soapy water over specially designed racks that held crockery, cutlery and utensils .This was really the forerunner of the machines, both industrial and domestic, that we see today. Her design gained a lot of recognition and she began her own company, which is now known as KitchenAid. This was the birth of the automatic dishwasher.

Josephine Cochrane and her automatic dishwasher.

In the intervening 125 years, a few technical advances have been made, though lead crystal glassware, silver and bone handled knives remain in the preserves of the old fashioned methodology!

In this article, we examine the features that those intervening years have delivered to industry. We will examine the Champion® range of industrial dishwashers which have recently been certified by HACCP International. Champion® is a Hong Kong based company distributing its throughout the world.

Champion manufacture both standard and purpose-built wash ware machines. Applications range from stand alone models for restaurants, bars, coffee shops, hotels to specially designed models for large scale caterers, hospitals and food processing plants. The purpose built machines in their AS-F range can be designed to accommodate larger food service items such as airline trolleys, cold boxes and large baskets which in the past would require manual attention in terms of sanitising if not washing. The AS-F range has 360° wash and rinse arms and the flight – style machines can be equipped with additional washing power (up to double) to allow higher belt speed and throughput whereas, historically higher throughput called for more machines. In order to accommodate large or unusual shapes, door widths and height can be specified at the design stage. The flight type model performs pre-rinsing, washing, final rinsing and drying in one continuous process and can be customised to suit the customer's requirement.



Combination Conveyor Belt, wash any types of utensils, such as plates, bowls, tray, container etc.

Sanitation and cleaning is a high priority in Champion's design process. This doesn't just extend to the dishwashing process but also to the dishwasher itself. The machines are easy to both clean and service. The machines are built in 304 stainless steel with the wash chambers and doors finished in double wall construction to minimise heat loss. With easy access from both sides the unit can be easily inspected and maintained. The componentry and controls are user-friendly and take into account food safety features with alarms and sensors monitoring the critical steps. Conveyor Belts with widths that can exceed 900mm, can be single or combination depending upon the nature of the machines intended use.

A leading Hong Kong catering company 'Give Me 5 Catering'

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Double opening door for easy cleaning

360° wash and rinse arms, ensure 100% washing coverage.

produces over 400,000 school lunch boxes per month. On a daily basis this meant that up to 400 cooler boxes per machine per hour or 5000 pieces or utensils per day have to be cleaned and sanitised to the highest standard to conform with 'Give Me 5 Catering' demanding food safety programme. They chose the Champion Flight Type dishwasher series model AS-F after extensive research, as being suitable to accommodate the oversized lunch boxes that needed washing. The AS-F was the most suitable solution that was reliable, economical, met food safety criteria and delivered the performance results as demanded by Give Me 5 Catering. The purpose built AS-F model unit demonstrates the manufacturing and design capabilities Champion has developed in order to meet even the most challenging industrial applications.

Champion also market a range of detergent and drying agents designed specifically for their dishwasher range. These too have been reviewed and certified by HACCP International.

So what would Joel Houghton think of the Champion models – I doubt he would even recognise one for what it was. Josephine Cochrane, on the other hand, was a woman ahead of her time and I think she would be very impressed as to where the years have taken her original award winning design. ∎

For more information, visit - www.champion-chem.com

CHAMPION®

CONTRACT CLEANING FOR FOOD FACILITIES

Careful who you use

by Karen Constable - HACCP International

The use of external cleaning services is now commonplace in the food industry. Cleaning service providers have the potential to impact on food safety and food quality, so it is important to find a contractor that can consistently deliver great results.

The cleaning industry is large and disparate. Most cleaning service providers are small operators with a few staff and systems which are unsuitable to the food industry. Large cleaning businesses may have better systems, but can still struggle to deliver quality services on a consistent basis.

High quality cleaning services are crucial for food manufacturing facilities, particularly if the scope includes food handling areas such as production zones. Engaging contractors to clean these areas is effectively subcontracting a key component of a HACCP programme, so it's essential that the contractor can deliver the appropriate level of service. The quality of the service depends to a large degree on the amount of manager-level supervision, training and internal auditing that the business undertakes, and these elements can be costly. Finding a contractor who can deliver consistent quality at the right price can sometimes be a challenge.

The most important part of establishing an external cleaning contract is to create a service specification. While the overall contract will deal with pricing, OH&S matters, certification requirements, conflict resolution and issues of commercial confidence, the specification is the key to quality service delivery. It should be self-contained and separate from commercially sensitive information so that it can be filed with the manufacturer's quality and food safety documentation, and amended as necessary – subject to agreement of both parties.

All service specifications require regular review, and if they are to be used correctly, they will also require regular updating, as new cleaning requirements are identified, frequencies are adjusted and problems are identified.

The service specification should initially be developed by the team previously responsible for cleaning activities in the facility, usually production or quality managers. It will list areas to be cleaned, elements within those areas, frequency, desired outcomes and documentation requirements. Provision of chemicals and equipment, as well as requirements for supervision, should also be addressed within the contract.

A service specification is essentially a list of what is to be cleaned, how often and to what standard. Standards for general cleaning tasks, such as administration areas and toilets, should be outcome-based. Outcome-based standards avoid saying 'how' to do the job and simply describe the acceptance criteria.

Example 1 (general cleaning specification):
Area: staff lunch-room
Frequency: daily (after 4pm)
Elements: Floors, tables, chairs, doors, windows,
Outcomes: The floor is free of food scraps, dust, dirt, grime, liquids.

Example 2 (special area specification):
Area: Batching Room.
Elements: floors, gantry, scale #1, scale #2, strip curtain…
Frequency: Floors, scales; daily. Walls, gantry; weekly. Ceilings; twice-yearly (Jan/Feb and July/Aug)…
Outcomes: Gantry: Hand rails free of dust, grime, product. Horizontal surfaces free of product build-up, dust, grime, cobwebs.

In an area with special requirements such as in Example 2, it may be necessary to specify some 'inputs' as well as outcomes. Inputs include cleaning methods, equipment and chemicals.

When it comes to food handling areas, a facility which already operates to a food safety programme will already have a list of items to be cleaned, as well as frequency and specific procedures as part of its cleaning and sanitation programme. These criteria should be used as the base for the cleaning service specification. More often than not, the development of the specification will highlight some gaps or errors in the existing cleaning programme. These should be addressed before they are used in the specification.

Where sanitizing steps are required, these should be explicitly described in the specification. Since a three step clean-rinse-sanitise procedure is significantly more expensive to provide than a one step wipe-over procedure this will allow the contractor to properly cost the job. For sanitising tasks swab test results may be included in outcome requirements.

Record-keeping can be a challenge for any service provider. Cleaning records include task sign-off sheets, which are a record that the task has been completed and verification sheets which show that someone has checked the results. These records are reviewed during internal and external quality system and food safety system audits.

An accurate, detailed service specification is critical.

When external contractors are engaged for cleaning food handling areas of food facilities, Quality Managers frequently find themselves having to duplicate cleaning records from external providers, or combine records from internal and external cleaners to meet audit requirements. Part of the contractor selection process should be an assessment of their documentation systems. Internal documents can be replaced with contractor's systems to avoid duplication. Auditors will accept externally provided documentation as long as it meets the needs of the programme: task sheets, verification records, written procedures, corrective action records and training records are a minimum. Alternatively, the contractor may use templates from the manufacturer's existing cleaning and sanitation programme. In either case, it is important that task sheets and verification sheets accurately reflect the tasks listed in the service specification.

The provision of consumables is not only a commercially important aspect of a cleaning contract, but also has implications for food safety and a due diligence process or certificate of conformance are a requirement of many food safety standards. Choice of product, chemical handling procedures and training of operators must be carefully considered, whether or not the chemicals are provided by client or contractor. Procedures should address contamination hazards, such as accidental use of window cleaning product on a food preparation bench, or transport of sanitiser spray bottles from toilets to kitchens. Poorly maintained mops, brushes and electrical cleaning equipment also pose hazards, and there should be systems in place to address these. The selection of such items is also very important. One needs to make sure that such equipment carries food safety certification or undergoes a vigorous due diligence process in the selection.

Supervision of cleaners is crucial in areas where food safety, commercial sensitivity or product security are concerns. Whether supervision is provided internally or by contractors, the supervisors must be appropriately trained. Training records for both cleaners and supervisors should be kept for induction training and specialised training, such as allergen control, whether provided by contractor or by client.

An accurate, detailed service specification is critical to procuring a quality cleaning service. In addition to the cleaning itself, provision of documentation, supervision and consumables are all issues which can have an impact on the safety and quality of the service. There are a number of cleaning companies which have been independently assessed and are certified as being capable of delivering appropriate services to the food industry. With a well-developed service specification and a thorough due diligence process in assessing the service provider, finding the right contractor should be a "piece of cake".

BIN THE BEST-BEFORE LABEL, NOT THE FOOD

The proliferation of date labels encourages waste – and amounts to a government-endorsed validation of our food anxieties

By Mina Holland

The international food industry has adapted well to consumer demand and legislation in introducing the label formats we see on packaged retail food products today. Packaging would look naked without the mass of information required even though it has only been with us for a few years.

While 'use by' or 'best before' dates have addressed the food safety issue, many believe they are replacing the use of our senses and thereby spawning a massive increase in food waste. Consumers, especially the younger ones, often use no other system of assessment in determining the safety of a product. The following article from the UK's Guardian newspaper gives a valid view from a cranky consumer!

Society's adherence to "best before" labels is symptomatic of our over-sanitised attitudes to food today and a culprit in creating Britain's 5.3 million tonnes of food waste each year. The government's plan to look again at the "best before" labelling on packaged foods is a positive move, hopefully leading to the abolition of a gratuitous system that encourages unprecedented levels of waste.

Distinct from mandatory "use by" labels, the best-before term refers not to the relative safety of eating a food, but to its predicted quality by a certain date. Having today cooked some delicious green beans and courgettes, dated three and five days ago respectively, these predictions seem as unhelpful as they are wasteful.

Just like the supermarkets and multinational food producers packaging and printing best-before dates on each item, the level of waste we produce in the UK today is a relatively new development. There's doubtless a relationship between waste on this scale and a society that's grown to use dated food packaging as a rule rather than a guideline. We've become too reliant on labels dictating what we eat and when, in stark contrast to preceding generations.

If you'll pardon the pun, it was better before. The produce that consumers bought at independent butchers, grocers and the like, wasn't bound in wrappers dictating its lifespan or a time bracket for optimal quality. Instead, consumers used their common sense to judge the edibility of food. It was instinctive. To this day my parents pay little attention to any kind of date. Inheriting their parents' wartime "waste not, want not" approach to food, the suitability of milk is gauged by smell, fruit by hand, mince by colour.

A lot of the food my mother makes is enhanced by food deemed "past it". I'm sure my friends, who take such delight in scoffing her banana bread, would be horrified to see the black and festering fruit that adds to its texture and flavour. Compare your fruit bowl to how the careers of Paul Newman or Sophia Loren ripened and you've got the right idea.

We've been raised in an environment of increasing caution. The flipside to heightened awareness of issues surrounding our health and safety is a paranoia about what bad food might do to us. In addition, longer working hours, increased stress levels and a media that iare aggressively prescriptive about how we should look and feel, have seen eating disorders sky rocket in my generation. Our relationship with food is erratic and wary, both greedy and guilt-ridden. This goes some way to explain but not excuse our liberal attitude to chucking food away. Date-labelling food essentially amounts to a government-endorsed validation of our food anxieties.

Worse still, best-before labels not only feed off our anxiety, they add to it, too. The unique crime of the best-before label is not just that the food is often still fine but that it is easily mistaken for "use by". Consumers are fooled into throwing perfectly good produce away simply because there are too many dates on the packaging.

"Sell-by dates" were introduced for consumers by Marks & Spencer in 1970 – then a far simpler label than what they face today. In addition to best-before and use-by dates – both aimed at the consumer – there's now a "display until" date for the retailer's records. Am I alone in thinking this makes it all far too confusing? We should scrap the best-before label and write vendor-targeted dates into the bar codes. Consumer safety should be the key concern in food labelling, with freshness and quality left to the individual consumer's judgment.

The British Retail Consortium advocates educating consumers in how better to store their food purchases, while Lambeth (my London borough) has made a food waste bin compulsory. Both these strategies are constructive but longer-term propositions. Binning the best-before label is a subversive first step toward creating less waste, and a subtle attack on society's complex and profligate attitude to food.

A guide to the key differences between Issue 5 and Issue 6 of the BRC Global Standard for Food Safety

At the BRC Global Conference held in London in March of this year David Brackston (Senior Technical Services Manager, BRC) provided an insightful look into the change from Issue 5 to Issue 6 of the BRC Global Standard for Food Safety. He has kindly given us an overview of these changes. In this issue of the HACCP International bulletin we provide an overview of how Issue 6 was developed, the priorities and objectives in producing Issue 6 and an explanation of the key developments of the certification scheme. In the next issue of the bulletin we will look in more detail at the technical requirements of the Standard, provide a management summary of the main changes to the Standard and the main reasons behind these changes. Certificated companies, or those seeking certification for the first time, must of course purchase a copy of the full Standard and are advised to study the detail of how the requirements apply to their own operation before their next certification audit. You can purchase a copy from www.brcbookshop.com.

David Brackston, Senior Technical Services Manager

Background to the production of Issue 6 and objectives

1. Consultation and development process

The BRC Food Safety Standard is widely used around the world and before starting the review for Issue 6, the BRC undertook an extensive consultation with the users of the Standard to understand the strengths and potential areas for improvement.

The feedback on Issue 5 was generally very positive and the continual growth in use of the Standard around the world, with nearly 14,000 certificated sites and over 20% growth in 2010, is a testament to its increasing international popularity. The consultation identified a number of opportunities for further improvement particularly with regard to the way that the audits are conducted:

- ensure a better balance of auditing time between the factory environment and paperwork review with more emphasis on good manufacturing practice
- ensure consistency of audit results so that the grades awarded are truly representative of the standards sites can maintain on an ongoing basis
- provide a path to allow recognition of sites which are still developing their food safety systems
- reduce the need for multiple customer and other audits
- ensure the audit report is focused and provides value and does not just add cost.

Moving the Standards forward -Evolution not revolution

The main focus of the rewrite has been on the development of ideas to extend the reach of the Standard, provide options to differentiate the performance of sites and encourage a consistency of audit. The review of the requirements has focused on clarification and simplification rather than wholesale changes reflecting the feed back from consultation.

1. Increasing Focus on Good Manufacturing Practice (GMP)

Maintaining good and constantly improving standards of Food Safety and due diligence requires documented procedures and processes to ensure the consistency of working methods and provide information to identify areas for improvement. The implementation of the procedures within the factory, staff training, supervision and working practices, factory hygiene and working conditions however ultimately affect the product safety and quality. Issue 6 attempts to rebalance the audit process by increasing the amount of time spent by the auditor **within the processing areas.**

Issue 6 of the Standard incorporates changes to increase the emphasis on the GMP aspects of the audit. These include:

- A two part audit checklist (in line with the an unannounced audit option) which helps define requirements which are expected to be audited within the production areas
- A change in the balance of the number and depth of requirements in favour of good manufacturing practices rather than documentation of the systems
- A new more customer focused audit report format reducing report writing time and encourage a more challenging audit approach
- Greater emphasis on standardising best practices for auditing to the BRC Standard within the auditor training materials – discussions with production staff, challenging assumptions, audit trails, observing product change procedures etc.

Against a backdrop of an overall reduction in the number of requirements, sections of the Standard covering foreign body control, hygiene and housekeeping and allergens have been expanded.

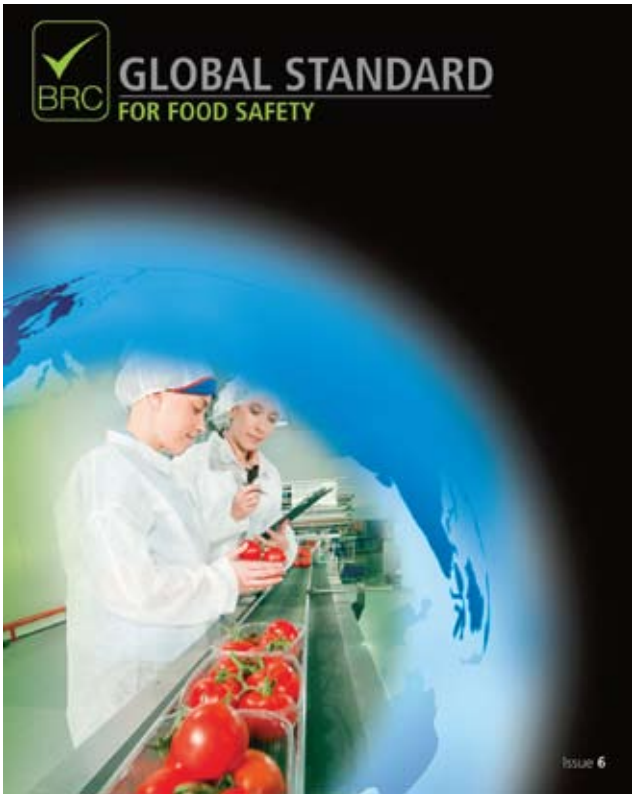
2. Refreshing the requirements

The rewrite has been used as an opportunity to look at the wording and lay out of the Standard to simplify and remove ambiguity.

A review has been undertaken of the statements of intent, which precede each set of requirements in the Standard, to ensure that these all express the required outcome with the following more detailed requirements supporting the achievement of the desired outcome.

Changes to the Standard have resulted in an overall reduction in the number of clauses by about 25%.

The certification process has been strengthened by ensuring that not only are issues identified at the audit corrected but



also the root cause is identified and an action plan put in place to prevent recurrence.

3. Unannounced audits - Increasing accessibility and reward

The use of unannounced audits by customers is becoming increasingly common in some markets and is seen as providing a greater challenge and more realistic assessment of sites' day-to-day standards. The unannounced scheme within Issue 5 was not well used partly because the benefits were not seen to outweigh the practical difficulties of having the entire audit conducted unannounced.

For Issue 6, the working groups have developed two options for unannounced audits both of which will be **voluntary.**

Option 1 – Full unannounced audit similar to Issue 5

Option 2 – An audit in two parts:

- Part 1 unannounced audit - largely based on factory operations and good manufacturing practice
- Part 2 - planned audit - based largely on a review of documented systems, procedures and records carried out at the usual audit due date.

The new option 2 audit allows sites to ensure availability of managers for the documentation review whilst still being able to benefit from the higher audit grade.

The increased emphasis on Good Manufacturing Practices with this approach and realism from the unannounced element will increase customer confidence in the audit and grades.

The BRC will promote the unannounced scheme and help market the sites achieving the schemes top A+ Grade.

4. Encouraging Food Safety - The new Enrolment process

The BRC Standards have been adopted and used around the world with certificated sites in over 100 countries. Published as Issue 6, the Standard has rightly gradually increased the requirements for certification with each Issue as factory standards and our knowledge of food safety improves. It is important that as the standards for certification move forward there is still a path for sites which are currently developing their food safety systems to be recognised and encouraged to develop to ultimately achieve certification.

A new enrolment process will be introduced which will enable sites to register their audits on the BRC Directory and share their progress with customers as they develop their food safety systems. A progressive weighted scoring system will be introduced prioritising the basics of food hygiene to encourage improvement where sites are not certificated. This recognises the status of the sites and provides a measure by which to chart their progress towards full certification. The audit report and scorecard will be available on the private area of the BRC Directory only and enable sites to share results with their customers.

Whilst encouraging improvement, it is recognised that there must be a clear point of difference between certificated sites, meeting all of the requirements of the Standard. Only sites achieving full certification will be issued with a grade and certificate, have their achievement recognised on the BRC public website Directory and be able to use the BRC certificated site logos.

5. Ensuring transparency

The opportunity has been taken with Issue 6 to ensure that the scopes defined on certificates and reports clearly reflect the activities included within the audit process and that any exclusions are clearly identified. Exclusions from scope for Issue 6 have been more restricted and need to be justified. Factored goods have now been excluded from scope.

6. Completing the Jigsaw

The improvements to Issue 6 are not just about the Standard itself, but continued improvement of the entire scheme which supports the Standard, including training, the management of Certification Body performance, auditor competency and development.

Training – A new range of interactive training courses have been developed to provide information for both auditors and manufacturing sites and are available from the BRC and the international network of BRC Approved Training Providers (ATP's). All auditors registered to carry out audits against Issue 6 will be required to attend a two day training course and successfully complete an exam in order to be allowed to audit Issue 6.

Auditor Competence – Auditing against the BRC Standards requires a high level of technical knowledge, experience and interpersonal skills. The BRC has always required that auditors have industry sector knowledge in order to be able to audit a particular sector and auditors are registered by product category. The auditor competency working group for Issue 6 has defined category skills, knowledge and materials to assist Certification Bodies to evaluate and improve auditor's sector knowledge.

Certification Body management (compliance) - As well as being accredited by their national accreditation body the BRC also reviews the performance of all registered Certification Bodies against a set of key performance indicators (KPI's). The results of this performance rating will in future be published on the BRC Directory to allow sites to identify Certification Bodies with the best performance.

HUNTING BACTERIA

A fluorescent test system has been developed that finds specific pathogens by tracking their spoor.

They can be in our water and in our food, multiplying so rapidly that conventional testing methods for detecting pathogens such as E. coli, Salmonella and Listeria come too late for the tens of thousands of people who suffer the ill effects of these potentially deadly bacteria.

Biochemist Yingfu Li from the Faculty of Health Sciences at McMaster University in Canada and his research team have developed a simple test that can swiftly and accurately identify specific pathogens using a system that will 'hunt' for bacteria, identifying their harmful presence before they have a chance to contaminate food and water.

Like any living thing, bacteria have their own spoor, leaving behind DNA trails of bacterial 'droppings'. Li tracks these metabolic by-products with molecular beacons - little lighthouses on a molecular scale that actually light up when they detect the DNA sequence left behind.

Li created a DNAzyme sensor that will be able to identify any bacteria, utilising a method that doesn't require the steps and specialised equipment typically used to identify whether or not harmful bacteria are present.

"Current methods of foodborne bacterial detection take time. The five days it takes to detect Listeria, for example, can translate into an outbreak that costs lives. We have developed a universal test that uses less complex procedures but still generates precise and accurate results," says Li, a Canada Research Chair in Directed Evolution of Nucleic Acids.

> "a simple test that can swiftly and accurately identify specific pathogens using a system that will 'hunt' for bacteria"

Li's fluorescent test system was highlighted in Angewandte Chemie International Edition, a prestigious weekly chemistry journal that ranks among the best for the original research it publishes. Li's paper, co-authored with lab members Monsur Ali, Sergio Aguirre and Hadeer Lazim, was designated a 'hot paper' by Angewandte's editors for its "importance in a rapidly evolving field of current interest".

"McMaster researchers are known for their ability to provide solutions to problems that impact the public's wellbeing. The test that Professor Li has developed will help safeguard the health of consumers and supply industry with a reliable means to bring safe food products to consumers and reduce their time to market," said Mo Elbestawi, Vice-President, Research And International Affairs.

Li's research was funded by the Natural Sciences and Engineering Research Council (NSERC) and the Sentinel Bioactive Paper Network. For a full copy of the paper, visit: http://onlinelibrary.wiley.com/doi/10.1002/anie.201100477/full

For more information, please contact: Professor Yingfu Li Associate Professor, Dept. of Biochemistry & Biomedical Sciences and Canada Research Chair in Directed Evolution of Nucleic Acids - liying@mcmaster.ca

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CLEAN HANDS
-old dirt, new dirt

By Karen Constable - HACCP international

Hand hygiene is an area which has received a lot of attention lately, both in the heath care industry and in the food industry. As a result, there's plenty of new research and new technologies around the topic of hand hygiene. Here, we take a look at some old ideas and some new ideas.

OLD IDEA: Washing hands is all about killing bacteria.
NEW IDEA: Removing viruses from hands – particularly noroviruses – is an equally important, if not more important reason to strive for clean hands.

In recent years, norovirus has become the most frequently confirmed food-borne agent in outbreaks of food poisoning, in Australia and also in the USA. The effectiveness of norovirus as a food poisoning agent is partly due to the fact that the infective dose is very low. Human challenge studies show noroviruses to be the most infectious agents ever described. The most common cause of norovirus contamination of food is from infected food handlers not properly washing their hands after using the toilet. While Australian food legislation prohibits food handlers from working when suffering from a food-borne illness, norovirus can be present in workers who have no symptoms. Even those who have recovered from the symptoms can excrete infectious particles for several weeks afterwards. Because virus concentrations in faeces can be very high, it is possible for a single food service worker with dirty hands to infect hundreds of other people. Compared to norovirus, bacteria in low numbers on a food worker's hands have much less potential to cause a large outbreak of food poisoning.

OLD IDEA: Hand-washing compliance is achieved with training, training, and more training.
NEW IDEA: Studies in the health care industry have shown that awareness of the importance of hand washing by personnel such as doctors, does not necessarily lead to more frequent hand washing. Observational studies of behaviour in public toilets and in food preparation environments consistently find low levels of compliance – ranging from 0% to 85% of people washing their hands when they should. The motivation for a person to wash their hands extends far beyond work-place training. Recent research has examined some of the psychological aspects of hand washing behaviour, with interesting results. In fact, having participants in psychological experiments wash their hands causes the subject to feel free from psychological traces of past immoral behavior, and also provides a change in their attitude to previously made decisions, reducing the need to justify those decisions.

OLD IDEA: Monitoring hand washing means questionnaires and surveys.
NEW IDEAS: Comparing survey results to observations has shown that people consistently say they wash their hands more frequently than they actually do. The iScrub Lite 1.5 is a free app for iphones which can be used by medical professionals to enter data on hand hygiene compliance. Slightly more Big-Brother-ish is the concept behind a pilot study in a medical centre in Alabama, which uses RFID (Radio Frequency Identification) devices to record individual health care workers' interactions with soap dispensers.

OLD IDEA: Hot water washing is better.
NEW IDEA: Recent research has found no difference in results for hot water and warm water. For a thermal inactivation of microorganisms, the water would need to be so hot that it would burn skin.

OLD IDEA: Washing and drying hands effectively requires adequate time spent, proper use of soaps, and attention paid to areas between fingers, under finger nails and in wrist creases. In addition, proper facilities; a good sized sink which is conveniently placed and supplied with warm running water are mandatory.
NEW IDEAS: Stick with the old ideas on this topic. As more research is done on hand cleanliness, results consistently show that the most important aspect of hand washing is the mechanical removal of oil and dirt aided by the surfactant activity of the soap, and the action of the rinsing water. New technologies such as no-touch taps and dispensers reduce the chance of post-washing contamination. They are even thought to improve compliance, as they reduce the need to touch wet hardware after washing, allowing users to walk away with that 'still clean' feeling.

CONTINUED ON PAGE 18

OLD IDEA: Antimicrobial soaps are a must.

NEW IDEAS: Antimicrobial soaps contain compounds that inactive microorganisms. In the food industry, quaternary ammonium compounds and Triclosan are commonly used. Novel antimicrobials include silver-ion compounds and antimicrobial extracts from honey and eucalyptus. Recent studies have found antimicrobial soaps are marginally more effective at reducing microbial loads on hands than ordinary soaps. There's no doubt that the use of antimicrobial soaps provides confidence in high risk food processing applications, however, they don't increase compliance and they won't compensate for poor hand-washing techniques. New generation barrier creams can overcome some of the concerns about skin-drying with antimicrobial soaps. Barrier creams which offer a residual anti-microbial effect are also available.

Recent studies have found antimicrobial soaps are marginally more effective at reducing microbial loads on hands than ordinary soaps.

OLD IDEA: Alcohol-based no-rinse sanitisers provide effective anti-bacterial and anti-viral activity.

NEW IDEA: During the H1N1 pandemic, the use of alcohol-based sanitisers in a medical setting were found to have little effect against the spread of that particular virus. However, other studies have shown that this type of product is very effective against cold viruses. When it comes to noroviruses, however, the virus particles lack 'envelopes' which some researchers believe causes them to be relatively insensitive to alcohol compared to viruses which have envelopes. While more work is needed on this topic, there is evidence that alcohol-based hand sanitisers aren't effective against noroviruses.

OLD IDEA: Wash first, then sanitise.

NEW IDEA: Because of low compliance rates with hand washing it has been suggested that providing 'squirt' bottles of waterless sanitiser would increase overall hand cleanliness in food preparation and food service operations. This new idea isn't so good. Hands which are soiled cannot be effectively sanitised, even by a thirty second alcohol rub. In this case, the old idea is definitely the best.

OLD IDEA: Well-washed hands mean clean hands.

NEW IDEA: Hands must also be dried properly. The drying step is just as important as washing; damp hands transfer bacteria readily to surfaces, and hands that have been dried using an unhygienic method can become re-contaminated. In addition, slow drying methods result in poor compliance. Until recently, single-use towels were the only hygienic option, however certain new generation 'blade' or 'jet' style electric dryers have proved to be an effective means of delivering dry, clean hands.

Hand hygiene has always been important to the food industry. The emerging awareness of the risk of norovirus outbreaks means that hand hygiene is becoming more important than ever. There are plenty of new ideas out there when it comes to hand cleanliness, although in some areas the old ideas are still the best.

Unlike previous editions of Facteria, this issue does not describe a pathogenic bacteria but rather a virus group known as Norovirus. Other names have previously been used to describe this agent including 'stomach flu', 'Norwalk (like) Virus' and the descriptive 'viral gastroenteritis'. It is probably the most highly contagious infector known which causes food borne illness with an infective dose as low as one virus.

It is likely that 90% of all viral gastroenteritis outbreaks and perhaps 50% of all food borne illness are due to infection by Norovirus. The cost associated with the disease is obviously massive. Infection occurs when Norovirus enters the mouth through either infected food, contact of infected surfaces with hands which then touch the mouth, by breathing the aerosol virus or contact with an infected person. The virus travels to the small intestine where it multiplies rapidly causing an onset of symptoms in around 24 hours (range 12 – 48 hours).

Symptoms include vomiting, diarrhoea, stomach cramps, fever like symptoms and general lethargy. Onset is rapid and it is not unusual for patients describing being fine one minute and violently ill the next. Symptoms persist for 24 – 48 hours and most make a full recovery after this time. Vulnerable populations can demonstrate more severe symptoms and outcomes.

Outbreaks of Norovirus are often observed in closed populations such as nursing homes, cruise ships, overnight camps and prisons where infected persons rapidly pass the illness onto others. One study suggested that a person carrying the virus infected an average of 14 others so the potential to overwhelm a closed population in a short period of time as an epidemic outbreak is significant.

The virus is easily killed with heat and chlorine based sanitisers. Alcohol based sanitisers (like some hand cleansers) are not effective. High levels of hand hygiene and personal hygiene are required to limit the spread of the disease. Those suffering the symptoms should not prepare or handle food for others for at least 48 hours after symptoms cease. After this time, the virus is still present in low numbers for several weeks, so control can only be affected by high levels of personal and hand hygiene.

Norovirus…the number one individual cause of food borne illness outbreaks and an agent that we will hear a lot more from as our knowledge of viruses deepens.

Destroys Bacteria

Fast facts.

Baxx is an environmental pathogen and air-borne pollutant removal system.

The Baxx cold plasma technology kills Bacteria, Virus, Moulds & Fungus spores by disrupting the metabolism of their cell walls – no toxins, no chemicals, no radiation.

There are neither filters to replace nor consumables – no servicing and requiring only an occasional clean. Install it and let it do the work. Ceiling or wall mounted. 220v -240v.

3 year 24/7 warranty - continuous running.

Unique cold plasma technology to create Hydroxyl Clusters which naturally kill all airborne pathogens. These groups also react with odour causing chemicals such as ammonia and methane gas to produce neutral compounds such as Co2, Nitrogen and Water. The harmless way to create a safer and cleaner environment.

As used in UK and European hospitals, and now fast being adopted in stainless steel versions with resin fan motor for the food manufacturing industry as well.

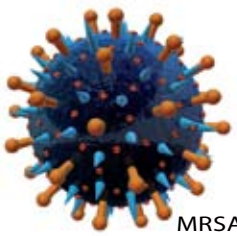
BACTERIA : testing on air-borne pathogens found the Baxx to be up to 99.9% effective in removing pathogens after 90 minutes.

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

FUNGI : test's on rice placed in a high humidity environment for one week, found that mould growth and spore production completely arrested in a Baxx environment as opposed to complete inundation of the rice in a non-Baxx controlled environment.

AMMONIA : Ammonia concentrations were reduced from 100% to 0% within 30 minutes as compared to 48% by natural reduction.

TESTS INDICATE EFFECTIVE ELIMINATION OF THE FOLLOWING -



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In this section are a few food safety and food related news snippets from around the world. Keep up to date with trivia as well as news!

From Japan

Re-think of food security, post tsunami

From FoodQuality News.com

The Japanese government may need to entirely re-think its food security strategy as the full consequences of April's earthquake, tsunami and nuclear disaster become clear, Japan already has low self-sufficiency, with only 40 per cent of food consumed by 130m Japanese home produced, the lowest figure for a developed nation.

A BBC radio 4 'Food Programme' that aired under a week before the earthquake reported on a government public awareness campaign about shifts in Japanese food culture, which aimed to encourage people to eat more home grown, traditional foods over pricier expensive imports.

But Jean-Yves Chow, Senior Industry Analyst - North East Asia at Rabobank, and lead author of a new report, expects the combined effects of food-safety concerns and supply shortages are likely to limit exports and cause imports to rise particularly from US, Australia and China. "Japan may need to revise its food security strategy to manage the country's risk." he said.

The report looked at the potential impact across six major agricultural sectors: rice, grains, meat, dairy, fruit and vegetables, and seafood. It concludes that there is a temporary prioritisation on long-life and staple foods, but that Japanese peoples' safety concerns over seafood, meat, fruit and vegetables are likely to mean more imports.

From Australia

Australia - The Food Bowl? May be not

Analysts at a food-security conference in Melbourne earlier this year have suggested that Australia, despite the nation's current output and ability to feed 60 million people, is not immune from the problems that could lead to a global food crisis in the future.

It shows that local farmers already fail to grow sufficient food and vegetables to give every Australian a nutritional diet and that poses questions as to the role the country plays as a part of global food bowl

Food prices are at record levels and with the world's population rising, along with energy and food prices, Professor Robin Batterham, deputy chair of a working group which advises Prime Minister Julia Gillard on food security, says the outlook is not good.

"The global picture says things have got to be done differently because you are heading for six billion to nine billion people and they are going to eat more protein," he said. "Agricultural land has not increased at anything like the same rate so things are going to have to change, as simple as that. But, there are worrying signs ahead and market forces will make Australia more and more exposed to global food prices. With imports and exports close to being evenly balanced in value terms he suggested we might not be the food bowl we think we are.

A recent 11 per cent monthly rise in fruit and vegetables prices in Australia shows how vulnerable household budgets can be to a few natural disasters.

A team of researchers commissioned by Victorian Government agency VicHealth has modelled scenarios which include climate, population, water and fuel factors for Australia's food needs in the future, based on a healthy intake of fruit and vegetables for every Australian.

From Laos

Get that locust down you

Serge Verniau is a man with a mission: to persuade the world to swap the chicken wings and steaks on their plates for crickets, palm weevils and other insects rich in protein and vitamins.

Verniau, the Laos representative of the UN Food and Agriculture Organisation (FAO), is only half-joking when he says his dream is "to feed the big metropolises from Tokyo to Los Angeles, via Paris" with the small arthropods. He plans to present the lessons drawn from a pilot project to the world at a conference on edible insects, probably in 2012. "Most of the world's population will live in urban areas. Trying to feed the whole planet enough protein from cows won't work," Verniau told AFP.

It is not by chance that the dream was born in landlocked Laos, one of the world's poorest countries. Almost one quarter of its population of six million people, and nearly 40 per cent of children below the age of five, suffer from malnutrition, according to figures from the Laos government.

"The typical rice-based diet provides insufficient nutrients for development - a shortfall that could be filled by insects, highly rich in protein and vitamins. Eaten as snacks, grilled or fried, they are already part of Laos cuisine, but most people do not know how to breed them," said Oudom Phonekhampheng, dean of the faculty of agriculture at the National University of Laos.

From USA

Some good news on the BP front

In a rare spot of good news, an analysis of seafood from the Gulf of Mexico came back clean of oil or chemical dispersants - in one word, "immaculate." 'The Daily Beast' commissioned a lab to test shrimp, lump crabmeat, and red grouper and found that all three, like the control samples sourced from the Atlantic Ocean, had undetectable or extremely minute amounts of contamination.

Unfortunately for the fishing industry, it is likely to take many more similar studies. A recent AP poll shows that 54% of Americans don't believe Gulf seafood is safe to eat. "Normally, at this time, the buyers are hunting me down and this year it seems like I'm working on securing buyers," says one third-generation shrimper.

From UK

Smart wrapping developed to detect 'off food'

A new generation of smart packaging - which flags up when food is going off - is being developed in Glasgow. Researchers from Strathclyde University, headed by Professor Andrew Mills, are working on indicators made from "intelligent plastics" which change colour when food loses its freshness. They hope to have a commercially viable product available soon which will improve food safety and cut waste. The project is being supported with £325,000 in funding from the Scottish Enterprise Proof of Concept programme.UK households are estimated to throw out about 8.3 million tonnes of food each year - most of which could be eaten.

The Strathclyde University team hopes new smart wrapping will alert consumers when food is about to lose its freshness because it has broken or damaged packaging, has exceeded its "best before" date or has been poorly refrigerated.

Freshness indicators currently used across the food industry usually take the form of labels inserted in a package but these come at a significant cost. Strathclyde researchers are looking to create a new type of indicator

which is part of the wrapping itself and subsequently much cheaper. The indicator it is working on will change colour when the freshness of the food deteriorates past a certain level.

Professor Andrew Mills said: "At the moment, we throw out far too much food, which is environmentally and economically damaging. Modified atmosphere packaging is being used increasingly to contain the growth of organisms which spoil food but the costs of the labels currently used with it are substantial. We are aiming to eliminate this cost with new plastics for the packaging industry. We hope that this will reduce the risk of people eating food which is no longer fit for consumption and help prevent unnecessary waste of food. We also hope it will have a direct and positive impact on the meat and seafood industries."

The Strathclyde team believes its work could resolve potential confusion about the different significances of "best before" dates and "sell-by" dates and highlight the need for refrigeration.

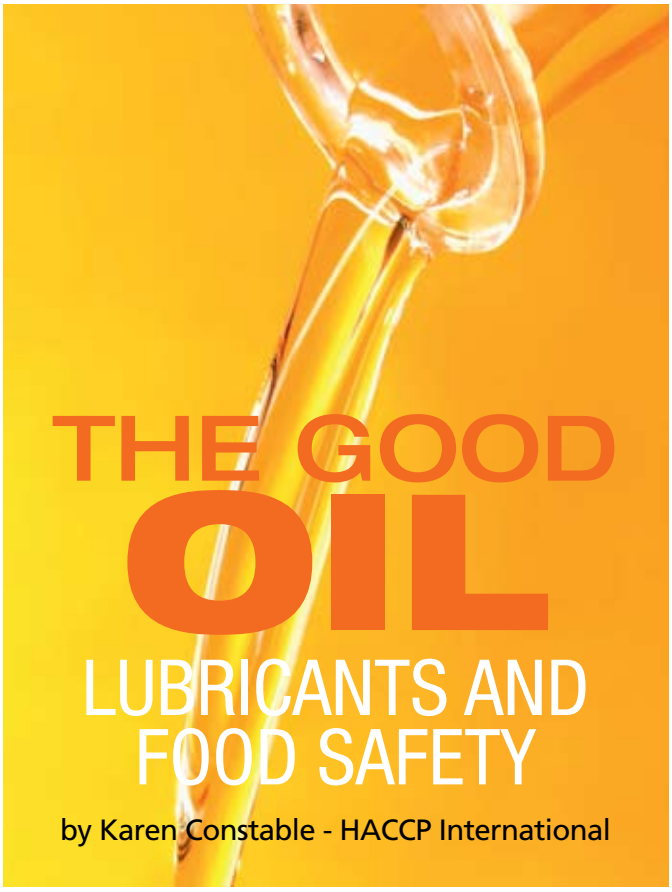
From China

A fifth of Chinese dairy farms could close in latest crackdown

By Guy Montague-Jones, FoodQuality News.com

A requirement for Chinese dairy companies to renew production licenses could put a fifth of firms out of business. The warning, reported in state media, came from a paper published by The Dairy Association of China, which operates under the Chinese agriculture ministry. The Dairy Association of China said this step could result in the closure of 20 per cent of the 800 dairy firms that are currently licensed. Although this represents only 10 per cent of the volume as smaller dairies are likely to be hit hardest by the crackdown as they are least likely to be able to afford the upgrades and improvements required.

The crackdown is the latest attempt from the Chinese authorities to improve quality and safety in the domestic dairy industry. Confidence in the industry plummeted in 2008 when melamine-tainted milk products killed six children and resulted in 300,000 cases of illness.



THE GOOD OIL

LUBRICANTS AND FOOD SAFETY

by Karen Constable - HACCP International

Every piece of machinery in a food handling facility, from blenders to forklifts, contains lubricant. Lubricants perform a huge variety of roles in machinery, mostly as a means to reduce friction between moving parts. They are also used for distributing heat, for transmitting power (hydraulic fluids) and as gas sealants – for example between pistons and shafts.

There are opportunities for lubricants to come into contact with food and food packaging in most food handling systems. Compressor lubricants can carry over from air compressors; lubricant oils from conveyor chains can come into contact with product during conveying. Lubricants are also placed deliberately in contact with food, as in the case of release agents used to prevent food sticking to grills or baking pans.

Lubricants are most often liquids, but could also be grease, paste and powders. They typically contain 90% base oil and 10% additives. The additives deliver performance characteristics such as increased viscosity, resistance to corrosion or resistance to oxidation.

The base oils in lubricants are usually mineral oils derived from crude oil. These may be designated as synthetic or non-synthetic. Generally speaking, non synthetic oils are derived from crude oil by solvent extraction and by hydro-cracking, whereas synthetic oils are manufactured from crude oil by processes such as isohydromerisation or other chemical reactions.

Base oils from animal and plant sources are also used to create lubricants. Canola, castor and palm oil are commonly used plant products, and are often used to create specialist synthetic esters. Tall oil, from animal sources, and lanolin from sheep's wool grease are also used as components of lubricants.

Solid lubricants include Teflon (PTFE), graphite, and other inorganic solids such as boron nitride, molybdenum disulfide and metal alloys of lead, tin and zinc.

HACCP-based food safety systems require lubricants that could come into contact with food to be 'food safe'. Lubricants which are designed to be safe for use in food processing are commonly marketed as 'Food Grade'. Food grade lubricants have a low level of toxicity, and are usually formulated to be a pale or clear colour and have a low odour.

There are of course many characteristics of lubricants which affect the choices of the food industry; viscosity, performance and cost all being important. Operational tolerances must also be considered, since heat, steam and acidic environments are common in the food industry. Food grade lubricants must meet all these requirements, as well as having a suitably 'safe' composition.

Many common lubricant additives are moderately toxic, and these additives are not suitable for use in food grade lubricants. With respect to ingredients and formulation which are considered safe, the lubricant industry usually makes reference to the US FDA 21 CFR (Food and Drug Administration Code of Federal Regulations 21).

To claim 'Food Grade' status for their lubricants, manufacturers may declare compliance with the FDA requirements, or with ISO or European standards for food grade lubricants. Many manufacturers register their products with NSF – a US-based non-government organisation. The NSF registration is based on the old USDA category system and its well-known 'H' designators in which lubricants for 'incidental food contact' are designated 'H1' and direct food contact lubricants are designated 'H3' There is also a somewhat incongruous category, 'H2' for lubricants which are suitable for use in food processing areas where there is no possibility of the lubricant or lubricated part contacting food!

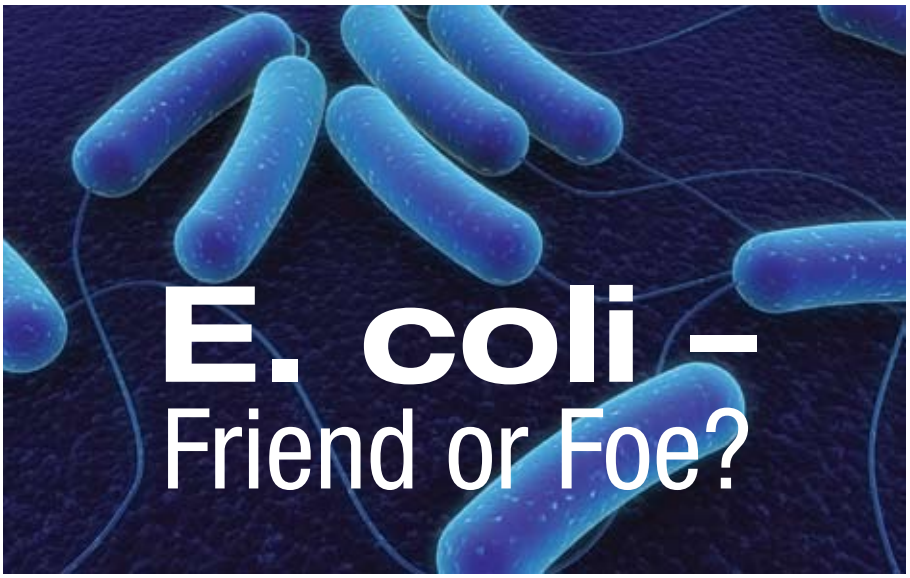
NSF registration is based on a review of formulations, labels and instructions. A weakness of the system is that it does not include an assessment of the manufacturing systems. With a focus on formulation as a means to designate a lubricant 'food grade', it is easy to overlook the necessity to manufacture, pack and store lubricants such that they are hygienic and free from contamination which could lead to hazards in the food which they may contact.

Food safety schemes require lubricants that could come into contact with food to be 'food safe'

Lubricant manufacturing systems must address the need to prevent chemical contamination by toxic substances, which could occur from errors during batching, blending or labelling processes or by inadvertent contamination of raw materials or packaging materials. Protection from biological hazards such as might occur if rodents or insects made their way into empty packaging containers before filling is equally important.

Labels and marketing materials for food grade lubricants list declarations of conformance and certifications for the product. NSF, AQIS and some other certifications are based on formulation, instructions and labelling alone while other certifications, including certification to ISO 21469:2006, and HACCP Australia/ HACCP International Standards also take into account the manufacturing systems of the lubricant suppliers to ensure that the product has been manufactured and packed hygienically and safely.

While some manufactures self declare, others carry several 3rd party certifications. It is well worth looking for appropriate Certificates of Conformance (CoCs) in respect of these important and expensive products.



E. coli – Friend or Foe?

By Richard Mallett, European Director of HACCP International

With all the concern surrounding the latest outbreak of E.coli (E.coli 0104:H4) in Germany and latterly France, it seemed appropriate to have a look at this organism in more depth. The incidence of E.coli outbreaks is low, especially compared to those involving the human food-borne pathogens Campylobacter and Salmonella, or the virus Norovirus. Severity of illness and fatality is, however, higher and this alone causes the concern amongst the population, perpetuated by the media. Is E. coli our friend or is it our foe? It's a good question to ask because right now, if you asked any member of the general public, they would probably say, without hesitation – foe! Actually the answer is – both friend and foe! No I'm not just hedging my bets here. It's a fact. Most strains of E.coli are indeed perfectly harmless and normal residents of the gut of humans and other animals. They are just one of the 1000 odd species and about 1 kg of bacteria you would find within the human digestive tract.

However, a few strains would certainly be considered our foe. EHEC is a very poisonous strain of E.coli. EHEC stands for Enteroheamorraghic E. coli. If you look at this word carefully you can pick out the word entero (indicating the infection site – the enteric tract, or gut) and haemorrhagic (the effect of infection – haemorrhaging of the tissues of the gut). So right from the beginning this does not sound like something nice, does it?

So what does EHEC look like. Well it's difficult to picture when I tell you that it is approximately 1000th of a millimetre in size, or one micron, compared to the width of the average human hair which in comparison is a rather portly 100 microns. So let's instead imagine EHEC stood right next to you at nearly 2 meters tall. That's better, now let's have a look at it. You are standing next to what looks like a large sausage. There is of course no head, arms, legs or face. There are however some really long hollow whips, extending directly out from the "skin" of the sausage. Really long, something like 10 – 15 meters long. EHEC uses these "flagella" by spinning them rapidly around (just inside the skin, at the end of the whips, is a motor on a molecular scale) to move or swim within a fluid medium. And there are some shorter "spikes", about 25 cm long or so more or less covering the skin of this particular sausage. Leave these well alone – one of their functions is thought to be to grip tightly to surfaces – like for instance the interior surface cells of the gut wall. Now go grab a torch and have a look inside (it won't mind). If you were able to unravel that dense looking black mass sitting in the middle you would see a beautifully structured ribbon of DNA – the same stuff that you will find in any of the cells on your body. The remainder of the inside of the sausage doesn't seem to contain, at first glance, anything else in particular. Well certainly there are no organs, or not like the ones we would find inside our own bodies, such as kidneys, liver and heart. EHEC, like all other bacteria, are some of the simplest, and most ancient, life forms on the planet. What you would find within the fluid mass, inside our 2 meters tall EHEC here, are the enzymes (like little protein catalytic converters) which drive the cellular reactions, the stuff of life, such as the breakdown of sugars and carbon sources for energy, the conversion of protein building blocks to build structure, the enzymes to replicate and divide the DNA so that EHEC can accurately build another EHEC, and then split into two to give 2 EHEC, and then 4 and then 8, 16 and so on. And if our EHEC here finds itself within the right food source, at the right temperature (optimally 37^{o}C), then it can split, in this way in 10 minutes. My population of 1 EHEC, within three and a half hours has become 1 million. In just three and a half hours I am now stood in the middle of a vast EHEC city.

It's a good question to ask because right now, if you asked any member of the general public, they would probably say, without hesitation – foe! Actually the answer is – both friend and foe!

Let's miniaturise again. This same population explosion has just occurred inside the lower gut of someone who has consumed food contaminated with EHEC (perhaps as low as 100 cells). Those millions upon millions of EHEC are busy at work – and as well as the plain old business of replication, they are producing, using those same enzymes, chemicals called toxins which are, unfortunately for us, quite poisonous. The toxin is known in microbiological circles as a verocytotoxin. Vero cells were first isolated from the kidney epithelial cells of the African green monkey and are used for the study of viruses and toxins. The verocytotoxin is comprised of a sequence of amino acids – the building blocks for protein.

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Richard Mallett, European Director of HACCP International

And so how does this toxin affect the human being? In sufficient quantity it causes colonic mucosal oedema (swelling of the intestinal wall and accumulation of fluid), erosion and haemorrhage (leaking of blood from blood vessels in the intestinal wall). The onset of symptoms can be sudden – a severe pain, followed by watery diarrhoea with nausea and vomiting in the early stages of the illness. After onset the illness progresses over the next day or two to bloody diarrhoea (caused by the haemorrhage described above). A high fever may afflict the elderly. Death rates in some reported outbreaks have been as high as 36% but in other outbreaks no deaths have occurred. The other type of illness which EHEC can progress into is Haemolytic Uraemic Syndrome (HUS). This can lead to acute renal failure. HUS is most common in children under five years of age and the elderly, although it is worth noting that in the recent German outbreak it was mainly adults that were affected. Fatality rates amongst those who develop HUS is thought to be around 5% but this may be higher in susceptible individuals. In July Germany declared the epidemic over. The epidemic, which peaked in May, caused illness within 4000 people and 52 deaths, 50 of them in Germany.

> Fatality rates in some reported outbreaks have been as high as 36% but in other outbreaks no deaths have occurred.

As few as 100 cells, ingested, may lead to infection. This means that loss of control, leading to cross contamination, for instance from infected food handlers, raw meats, or even manure contaminated salad or vegetable items, has to be a significant risk. The undercooking of raw meats, particularly minced meat products is also a significant risk.

So what can be done to reduce risk?

The low infective dose means that the usual rules concerning segregation of raw meats and preventing cross contamination of ready to eat food applies is critical. Salad items should be thoroughly washed and it may be prudent to consider using a sanitising wash (specific salad wash reagents and tablets are available) if not already doing so. Peeling may also help to remove some bacteria from the outside of these products. Raw foods should be cooked adequately – there is no evidence of heat resistance of E.coli and so core cook temperatures of 70 to 80^{o}C are more than adequate. The importance of medical screening of staff and visitors, and of the medical screening, by questionnaire, of staff returning from outbreak zones as they arise cannot be over-emphasised. And personal hygiene, especially effective hand-washing, particularly after handling raw meats or vegetables and before handling ready to eat foods is, as always, an effective control measure in combination with those mentioned above.

If you would like some further information on the German and French outbreaks you can visit the report published by the European Food Safety Authority Task Force at the following web link – http://www.efsa.europa.eu/en/press/news/110705.htm

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 and Codex updates.

Food Safety Information Council
www.foodsafety.asn.au

A great range of information on food safety targeted at consumers. Check out the fact sheets and learn lots. Plan your celebrations during 'Food Safety Week' in November…..would not miss it !

Bacteria - We will rock you
http://www.youtube.com/watch?v=1EkehFkhWf4

What do you get when you cross food poisoning with classic rockers Queen? WE are the microbes – rock on Freddy and check this out. I see a little silouetto of a coli!

Scie-ro
http://www.csiro.au/org/FNS/Resources.html

The Australian government organisation CSIRO has been leading the field in food science research for years through various collaborations with government and private industry. They discovered the significance of water activity in the 50's and maintain the largest collection of xeropilic fungi in the world ! Definitely not the shallow end of the food science gene pool! Their food safety fact sheets are an excellent source of information on a range of food safety topics.

Food Trivia
http://halife.com/trivia/food.html

There is really nothing trivial about food but……. for your next trivia night include some of these great questions and answers. Who cares about how many feathers on a canary? I want to ask 'how long is your food safe out of the fridge?'. (PS 2200 feathers on a canary).

Ultimate Food Safety
http://www.partselect.com/JustForFun/Food-Safety.aspx

We like hearing from our readers and this one was provided by Lillian. Great site with links and sub-links to hundreds of food safety and nutrition resources...well worth a look. Thanks Lillian.

FACT

"These products are food safe"

HACCP INTERNATIONAL FOOD SAFETY PROGRAMMEN CERTIFICATION

www.haccp-international.com

The HACCP International certification process supports organisations that demonstrate food safety excellence in non-food products that are designed for, or commonly used in, the food industry. The 'HACCP International' mark is particularly aimed at those products that are required to be 'food safe' compliant or HACCP approved in order to meet the food safety demands of their quality conscious customers. The independent assessment and verification process offers assurance to the buyer that such products are "fit for purpose" and, used correctly, will not compromise food safety protocols.

Certified products are rigorously reviewed by HACCP International's food technologists and in their estimation both contribute to food safety in their use and demonstrate appropriate standards of food safety in their design, manufacture and technical application.

Only products that are certified by HACCP International can carry the HACCP International mark or its regional equivalent. Quite often, certification requires manufacturers or service providers to make modifications to a product, be it in terms of design, material selection or claims about the product in order to comply. The process is particularly useful for products which have several industrial applications of which the food industry is one important segment.

The companies listed below have a range of products which carry the HACCP International mark or a regional equivalent for more local application. Please call one of our regional offices for further information or if you are looking for a food safe product.

CATERING AND FOOD SERVICE EQUIPMENT	AACLAIM BREMA - ICE MASTER SYSTEMS FOOD SERVICE EQUIPMENT (FSE) HOSHIZAKI KENCAN LTD MACKIES ASIA PACIFIC (I) S.P.M. DRINK SYSTEMS S.r.l. (I) TOMKIN
CLEANING EQUIPMENT	CARLISLE CLEANING EQUIPMENT CHAMPION MACHINERY HK LTD (I) ESWOOD GLOBAL CHAMPION (Shanghai) LTD (I) OATES CLEAN SABCO STEAMASTER AUSTRALIA
CLEANING CHEMICALS KITCHEN MATERIALS AND SANITATION PRODUCTS	3M ACTIVEION (I) AVANTI CHEMICALS BAXX (I) CHAMPION CHEMICALS LTD CLOROX CONCEPT LABORATORIES DEB GROUP ESSENTIAL WELLNESS KIMBERLY-CLARK (I) LALAN SAFETY CARE OATES CLEANING PROARMA TORK
CLEANING & MAINTENANCE SERVICES TO THE FOOD INDUSTRY	ACE FILTERS AERIS HYGIENE SERVICES (I) BORG CLEANING CHALLENGER CLEANING SERVICES ICE CLEAN INDUSTRIES INTEGRATED PREMISES SERVICES ISS HYGIENE SERVICES METROPOLITAN FILTERS OZ TANK PINK HYGIENE SOLUTIONS
CLOTHING, DISPOSABLE GLOVES AND PROTECTIVE WEAR	LALAN GLOVES SAFETYCARE LIVINGSTONE INTERNATIONAL PARAMOUNT SAFETY PRODUCTS RCR INTERNATIONAL STEELDRILL WORKWEAR & GLOVES SCA HYGIENE
FACILITY FIXTURES, FLOORING AND FIT OUT	ALBANY DOORS (I) ALTRO SAFETY FLOORING & WALLING (I) BASF CONSTRUCTION - UCRETE BLUE SCOPE STEEL (I) CARONA GROUP DMF INTERNATIONAL DOORS (I) DEFLECTA CRETE DYNAMIC COMPOSITE TECHNOLOGIES DYSON AIRBLADE (I) GENERAL MAT COMPANY HIDRIA GIF (I)

FACILITY FIXTURES, FLOORING AND FIT OUT	HALTON (I) LAMAL GROUP PHILIPS LIGHTING RAMVEK ROXSET THORN LIGHTING (I)
FOOD INDUSTRY SERVICES	SHADOW GROUP SKILLED GROUP
FOREIGN BODY IDENTIFICATION	SMITH HEINMANN AUSTRALIA WJB ENGINEERING (I)
LABELS - FOOD GRADE	OMEGA LABELS W W WEDDERBURN
MANUFACTURING EQUIPMENT COMPONENTS & CONSUMABLES	BSC MOTION TECHNOLOGY ENMIN (I) FCR MOTION HARRINGTON ELECTRICAL MOTORS (I) LANOTEC (I) SICK SMC PNEUMATICS (I)
PEST CONTROL EQUIPMENT AND MATERIALS	BASF BELL LABORATORIES INC (I) EKO SOLUTIONS PEST FREE AUSTRALIA (I) STARKEY PRODUCTS (I) WEEPA PRODUCTS
PEST CONTROL SERVICES	AMALGAMATED PEST CONTROL ANT-EATER ENVIRONMENTAL ARREST-A-PEST CPM PEST & HYGIENE SERVICES ECOLAB ISS RENTOKIL SCIENTIFIC PEST MANAGEMENT
REFRIGERATION GOVERNORS, EQUIPMENT AND DATA SYSTEMS	AERIS HYGIENE SERVICES (I) CAREL DANFOSS DIGINOL (I) PHASEFALE
STORAGE EQUIPMENT & PACKING MATERIAL	CONFOIL CROWLE INDUSTRIES DALTON PACKAGING HILLS INDUSTRIES MICROPAK NETPAK SCHUETZ DSL
THERMOMETERS, PH METERS AND DATA LOGGERS	3M FLUKE TESTO

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

HACCP INTERNATIONAL

WHAT ALL THE BEST, FOOD SAFE EQUIPMENT IS WEARING

For more information on the non food product certification scheme and its benefits
or
to find food safe products, materials and equipment that best support the food industry, visit :

www.haccp-international.com

or call us :

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HACCP INTERNATIONAL

eliminate the hazard - reduce the risk

Only products that carry HACCP International certification are advertised in this bulletin. They have been thoroughly examined by food technologists to assess their suitability in terms of food safety for use in food operations employing a HACCP based safety programme.