

HACCP AUSTRALIA

FOOD SAFETY BULLETIN

106

ISSUE 26 2019



Food Safety Culture – What does it 'feel' like?

Food Grade Lubricants –It's more than just the formula

Be sure. **testo**





Industry leading Merriwipe cloths now certified safe for direct food contact

Are you using the thickest, most absorbent wipe in its class on the market?

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Blue General Cleaning



GreenFood prep areas & kitchens



RedBathrooms



Yellow *Infectious areas*



WhiteOperating theatres



CoffeeCoffee machine cleaning

HACCP Australia has now certified **Edco Merriwipes** as food safe and suitable for short term food contact and for cleaning operations in food handling facilities with HACCP based food safety programs.

Edco® stock a range of HACCP approved products, see the range at **edco.net.au**

Welcome

to the 26th edition of the HACCP Australian Food Safety Bulletin

e have finally succumbed to the electronic age and 'gone digital' with this publication. We were very proud of our 'glossy print' but times change and we must with them. Electronic media is where we are and it's in keeping with the requirement to reduce paper and plastic usage, reduce our ecological foot print and increase efficiency both in terms of distribution and cost. Postage is fast becoming prohibitively expensive and second choice for business communication. Please stick with us as we master the digital - we have worked hard to maintain the quality of the content.

I wouldn't normally share internal company correspondence but I'm going to make an exception.

The exert below is taken from an internal communique from our Technical Manager and shares a summary of activity in the product certification division with staff in other HACCP Australia and HACCP International departments (and now the readers of this bulletin!). My immediate thought on reading this was that this better explains the value of our scheme than any attempt I have made in the last 15 years! It's not just about the products we have certified – it's equally about the products that we have failed. Says Karen Constable,

"Here's a quick look at what we've been doing in Product Certification' land lately. We have had a period of massive growth and activity. In recent months we evaluated and approved more than 605 products and services. That's not a typo! We've also seen a few shockers, including these products and services that failed our evaluation process:

- · Sachets for controlling mould in cool rooms that contained an extremely toxic active ingredient
- Paper towel dispensers with holes in the top that let water in so the paper inside get soggy
- · Orange-coloured gloves that leach chemicals into food
- Cleaning service providers who don't train, or haven't trained properly, their staff.
- Pest controllers who consistently fail to report batch numbers and location of use of pesticides and don't conduct internal audits
- Floor tiles that crack and chip easily
- Brushes with poorly attached bristles
- Testing strips with insufficient accuracy
- · Refrigerators that cannot be adequately cleaned
- · Light fittings that aren't cleanable
- Cleaning products that contain unidentified viable microbial spores
- Sanitisers that leave unidentified substances on food contact surfaces
- · Cutting boards that contain heavy metal colourants
- Cockroach gels that contain fish powder and peanuts
- Hand sanitisers that don't effectively control norovirus

Just to be clear, these are items that we didn't certify!

In explaining the benefits of our scheme, I couldn't actually put it any better than this. By looking for our mark, the food industry can get real peace of mind that the food safety risks and attributes of every certified product have been fully considered, are food safe and fit for purpose

I remember an old advertising campaign from John West that said "It's the salmon that John West reject that makes John West the best!" To a great extent, the same is true of the HACCP International certification mark!

Thanks for reading. *



Clive Withinshaw, **HACCP** Australia

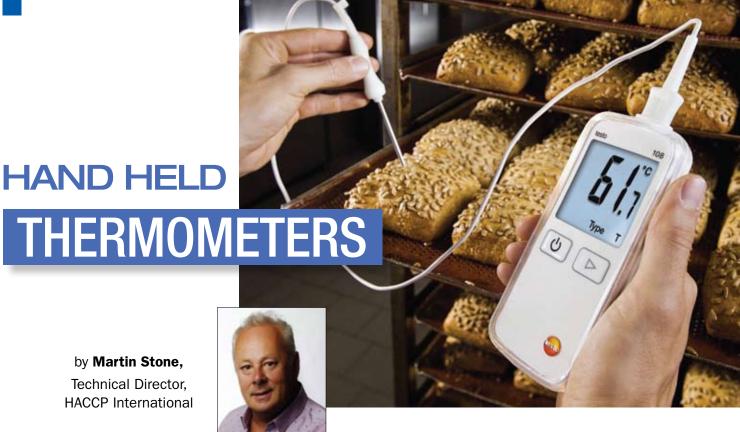


For more information on any article in this magazine or to submit editorial or a comment, please email to:

fsb@haccp.com.au

For more information on HACCP Australia's range of services, please visit www.haccp.com.au

All products advertised in this bulletin are certified by HACCP Australia and represent world's best practice in terms of food safety and compatibility with HACCPbased food safety programmes (more details on page 28).



Technical Director, **HACCP International**

igital thermometers from a reputable supplier are an essential monitoring tool in most food facilities. Many Critical Control Points (CCPs) are monitored by temperature checks and this is because heat (or the lack of it) is used to kill or control the growth of micro-organisms.

Modern thermometers are electronic and feature microprocessor driven probes or even detectors capable of reading infrared radiation, but around 300 years ago temperature measurement as a science was in its infancy. In 1714 Daniel Gabriel Fahrenheit invented the mercury in glass thermometer and went on 10 years later to develop the temperature scale that bears his name. Fahrenheit used three reference temperatures to form his scale. Firstly, he assigned a frigorific mixture of salt, ice and water at 0. The temperature that ice started to form on fresh water was assigned 32 and the temperature of his underarm was assigned 96. The freezing point to boiling point of water was divided in 180 degrees and the Fahrenheit scale was born!

In 1742 Anders Celsius developed a new scale that would go on to be used by almost the entire world and be designated as an SI unit. Celsius assigned the melting point of ice the unit 100 and the boiling point of water at 1atm to be 0. He then divided these reference points by 100 to invent the Centigrade scale. Centigrade is derived from the Latin for hundred steps. A year after Celsius's death in 1745, the scale was reversed such that 0° represented the melting point of water and 100° the boiling point. This represents a common calibration method for Celsius thermometers to this day.

Today there are hundreds of different thermometers available and some of the considerations for selecting a thermometer for your food business include the following.

Type. The first choice is one of digital vs analog. 'Analog' instruments include the traditional mercury in glass and also the bi-metalic or dial thermometers. Never use mercury in glass or alcohol in glass thermometers anywhere near food.

Breakages can cause toxic chemicals and glass to enter food. Dial thermometers have low accuracy, are somewhat difficult to read with precision below a degree and are easily shocked out of calibration. Really, for food processing applications, a digital thermometer is a must and can offer easy to read precision resolution, accuracy and a robust construction.

Subtype of digital. Thermocouple or thermistor/RTD or IR is a choice the purchaser needs to make based on intended usage. Thermocouples typically have a wider range, are easily calibrated and offer flexibility in use such as being able to insert the junction tip into a can during processing. Thermistors are common, cost effective and accurate. Good quality thermistor



thermometers rarely go out of calibration and can be purchased with a wide variety of probe types for different applications. RTDs are accurate across a larger range but can be difficult for field (factory) calibrations. IR Thermometers are contactless and useful for applications where a probe or direct contact is not practical. A value is resolved rapidly but these

instruments have limitations such as only measuring the temperature of the surface, not being simple to calibrate and opportunity for incorrect reading because of reflections of IR radiation from non-target sources.

Probe. The probe should be made of stainless steel and of a suitable length for the application. As these are typically hand held units, the purchaser must consider how close they want their hand to be to the test when conducting a

measurement. For example, if measuring the temperature of a large boiling vat of food, a longer probe will be safer and easier to use than a shorter probe. Probes attached to the thermometer via a cable can be easy to use in certain applications compared to a fixed probe unit. The strength of the probe is also a consideration when



measuring hard substances such as frozen foods. Specially designed and super-robust probes can be obtained for boring into solid foods. Other probes can be obtained for measurement of surface temperatures and other specialist applications.

Housing. A waterproof and cleanable housing is strongly recommended for food applications. Smooth surfaces will provide for effective cleaning...after all, the thermometer could be considered a food contact surface. A robust housing will help to prevent damage to the instrument from the inevitable drops and shocks they will receive when used in food processing application. Avoiding glass components

or anything that can break off the unit and become a contaminant is prudent for food applications.

Features. Quality brands offer a range of useful features such as reading hold, memory, stabilisation hold, Hi/Lo memory, duel probe/IR and downloadable/IoT options to name a few. All are useful and can assist usability in different applications. Make sure the readout is legible in different light situations and consider requirements in either dark or extremely bright applications.

Accuracy and resolution. Both are determined by application but for a general-purpose thermometer a resolution of 0.1 degrees and a matching accuracy in the target temperature range is considered adequate. Where temperature measurement of Critical Control Points is required, higher levels of accuracy and resolution may be required.

Typically, as part of your Food Safety Management Programme, you will need to calibrate your thermometers on a routine basis. This may include benchtop calibration by the instrument manufacturer or comparison to a reference thermometer over a number of temperatures in the target usage range. Check the instrument manufacturer recommendations in this regard. Of course, in the field (factory), the methodology developed using ice water and boiling water by Anders Celsius some 300 years ago is still the easiest, most common and effective method.

Instruments that have been certified by HACCP International display all characteristics as recommended in this article. *



HIGH EFFICIENCY SOLUTIONS HAND-IN-HAND WITH FOOD SAFETY FROM CAREL

Ever since ancient times, mankind has needed to learn how to preserve food, so as to be able to survive periods in which there was scarce availability of game or between harvests.

However, it was only the advent of "mechanical cooling" in industry and subsequently the progressive introduction of home refrigerators (the first model went on sale in 1913) that allowed food to be transported and stored for long periods of time, maintaining its original properties.

Availability of fresh, healthy and good quality food, anywhere any time, for the most part depends on "cold chain" management, or in other words, ensuring the right temperature, fundamental for both frozen foods as well as fresh produce.

The guidelines established by international organisations and food and environmental experts recognise the following priorities:

- Food safety
- Food security
- Food waste reduction
- Environment
- Energy saving

For operators in the food industry, the following are also important

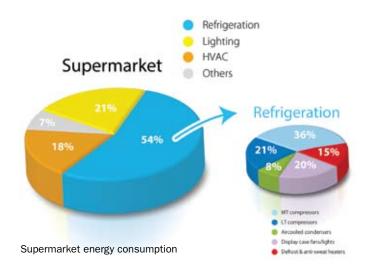
- Food quality
- Shelf life
- Reduction in running costs
- Return on investment.

Here we look at how these objectives can be pursued by exploiting the best modern mechanical, thermal and electronic technology, combined with increasingly intelligent software.

In a conventional scenario, the devices and systems responsible for managing installations, compressor racks, showcases and cold rooms, lighting, ventilation, air-conditioning and so on operate totally independently from each other, consuming significant quantities of energy. Frequently, needs are divergent and reciprocal effects lead to an increase in costs and a decline in performance. Failures and malfunctions, for example high temperatures, are only identified when the negative effects are already evident and have an impact on food preservation. Repairs thus become more urgent and more expensive, and the food itself, in the worst cases, will no longer be fit for consumption and will need to be discarded (food waste).

With the latest proposal on the market, such as the Carel Total Store Solution, all the components in the system are designed to cooperate with each other, for the purpose of achieving the highest possible performance, in real operating

conditions and in response to continuous changes to the systems. Energy consumption is reduced, and food preservation conditions are improved. (note: in a supermarket, around half of the energy consumption is accounted for by cold storage!)



With the boss monitoring systems, the first symptoms of a malfunction are recognised in advance (a key performance indicator), meaning corrective actions can be adopted before the faults become critical, and maintenance operations can be organised more affordably and at more convenient times.

So how can energy be saved while ensuring the best possible food preservation?

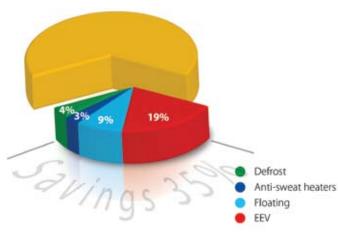
Energy consumption = costs:

Compressor racks are the devices that use the most energy. These systems supply the various units with gas or heat exchange fluid in suitable conditions to remove the required heat.

In a refrigeration cycle, energy consumption increases with the pressure difference between suction (cold side, from the refrigeration unit) and compression (hot side, in general the heat removed from the process).

The combination of advanced hardware with smart logic at compressor rack side (CAREL pRack family) together with the use of electronic stepper valves and dedicated electronic controller at showcase/coldroom side (CAREL EXV & CAREL MPXPRO) provide optimising operation conditions, improve heat exchange into the refrigeration unit and remove excess heat in the most efficient way.

Quite considerable energy savings can be achieved in this way, even up to 25-30%.



Potential savings for refrigeration

Benefits for stored food

Every type of food has an optimum storage temperature and humidity level

- Outside of these parameters, produce tends to spoil quickly, its organoleptic characteristics are altered and a process of deterioration begins that can lead to the food becoming unsafe for consumption.
- The importance of temperature and the effects of time are quite easily understandable.
- The importance of humidity and the moisture content of foods is however not as clear.

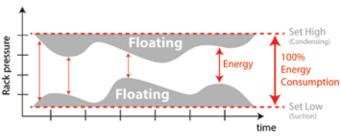
In simple terms, it can be stated that the more the refrigerated air temperature and humidity deviate from the ideal values for the produce, the more this "hygrothermal stress" affects food quality. Even frozen foods, albeit to a lesser extent than fresh produce, are affected by this problem.

> The most evolved systems automatically create performance analysis, indicators of deviation from optimum behaviour.

In a traditional system, the refrigerant fluid temperature is fixed in the compressor rack at the value needed by the unit with the highest demand, thus assuming the least favourable cooling load conditions. As a consequence, the system and specifically the evaporators in the cold rooms and on the showcases (heat exchanger coils) always work at a lower temperature than is actually necessary, at higher costs - about 2% more energy for each degree less than needed.

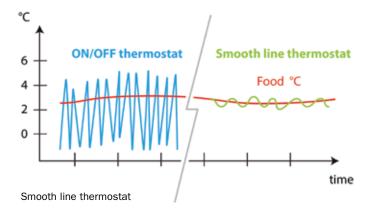
The air is thus cooled excessively, and following a cooling cycle the system switches off in order to return to the set temperature, meaning the produce is subjected to heat-cool cycles with variations of several degrees around the ideal average value.

With the CAREL solution, on the other hand, compressor rack operation constantly reflects the demand of each unit connected, adapting dynamically to real conditions by using



Dynamic adaptation

Inverter DC technology, while the ExV valves on the showcase/ coldroom adjust refrigerant flow, and the MPXPRO controllers minimise fluctuations in temperature even in the most critical stages, such as when defrosting or in response to variations in load.



Food safety and CCPs.

The application of correct HACCP procedures in supermarkets and food industries that use modern control and monitoring system is simplified by the availability of large quantities of useful information, through dedicated functions such as temperature graphs and tables, alarm signals and logs, dash-board and reports.

The most evolved systems automatically create performance analysis, indicators of deviation from optimum behaviour, alarm warnings for system malfunctions or inappropriate use by operators. In other words, all the critical points that may generate situations of risk to the produce and the equipment are managed at the origin.

This increase of food safety and quality does not however imply additional costs, as the savings obtainable in energy consumption mean a very short return on investment.

See www.carel.com for case studies, presentations and congresses, including many produced in partnership with research institutes, universities, customers and leading companies in the industry.



For further information visit: www.carel.com

What I want from a

Pest Controller

by Martin Stone.

Technical Director, HACCP International

I'm sometimes asked if it is mandatory for a food business to use a 'HACCP International certified' Pest Controller in order to comply with various food safety standards. While the answer is 'no', that is probably the only way to be absolutely certain of the contractor's ability (Download the standard which certified suppliers are audited against from HACCP International's website). Regardless, you do need to select a pest controller that delivers the requirements of the food safety management standards you are certified to and one that actively manages food safety risk from their activities.

In addition to the pests they are tasked with controlling, pest controllers themselves can pose a significant risk to food safety. There have been contamination events documented where pest control chemicals have contaminated food resulting in consumer illness. Further, I have personally witnessed a pest controller using a residual insecticide directly above an open vat of food resulting in certain contamination of the product stream. Trust me; there are bad guys out there.

So, how does one select the good guys? Well here is a list of elements that the food industry and I would require to be considered during the selection process.

A Defined Service.

The pest controller should be able to define the service offered in terms of;

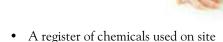
- The facility areas to be treated
- The treatment methodology including chemicals used (including safety data sheets) and physical devices
- The frequencies of treatment and review
- The technical expertise of the technicians

To download the standard visit the Downloads/Links page of www.haccp-international.com

Documented Procedures.

The pest controller should be able to provide documented procedures or SOPs covering issues such as;

- Standard operating procedures for activities on food sites
- Procedures for chemical handling storage and spills



- How devices are located on site, identified and labelled
- Record Keeping and Delivery.

The pest controller should be able to deliver reports contained in a site register in regard to pest control activities such as;

- Service reports including treatments executed including chemicals used, dilution rates and batch
- Pest sighting reports
- Site maps with labelled devices
- Pest monitoring records
- Opportunities for improved pest control and proofing
- Client feedback

Risk and Service Management Processes

The pest controller should be able to demonstrate programmes such as;

- Internal audit systems for continued compliance to procedures
- Hand washing policies
- Licensing, insurance and regulatory compliance
- Clothing and jewellery policies
- Procedures in case of food borne illness
- Training in procedures and food safety risk management
- Procedures to mitigate food safety risk in case of errors in applications

These are considered to be key considerations when selecting a pest control contractor that meets the demands of appropriate risk management strategies, the requirements of Food Safety Management Programmes and those of the food industry in general. Each of these elements should be reviewed favourably for a pest controller to be awarded a service contract in the food industry.

Of course, the most effective way to be sure that a pest controller you select is delivering the service the food industry expects, is to choose a supplier that carries the HACCP International certification mark.

Go to www.haccp-international.com to learn more. *



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FREUDENBERG

IS "HACCP" DISABLE HACCP International EMEA

his question, in various guises has appeared in our email inboxes a few times now, from concerned customers, who have heard from sources, including commenters on social media platforms, that "HACCP is disappearing". Naturally they have expressed concern, not least because they have gone through the process to have products HACCP International certified, as part of a due diligence process, to support food industry, providing materials and products that have been evaluated and found to control or mitigate potential food safety hazards that may arise from their selection and use. This in turn of course supports food industry that manages food safety through a HACCP based food safety management system. So, is it true? Well, in terms of HACCP International and the product certification programme the answer is No!

The broader question is where this information emanates from and whether there is any truth to it in terms of the food industry. HACCP as a food safety management system is not disappearing. It's far too successful for that. The nomenclature and terms surrounding a food safety management programme, are, however, at least to a certain extent.

A reasonable example of this can be found in the latest iteration of ISO 22000, which is now ISO 22000:2018 (the older version being ISO 22000:2005) with the transition period for food industry, that is certified to this standard, to update to the new version, ending in Summer 2021.

Let's take a look inside this standard and see how it addresses the need to identify and control food safety hazards through the HACCP process. The standard, it should at first be noted, aligns very closely with the format of ISO 9001:2015, the deliberate outcome of trying to align some of the world's most commonly used ISO standards. ISO 9001 of course does not specifically address food safety management, so this topic is picked up in ISO 22000:2018, specifically in section 8.2 (Prerequisite programmes) and 8.5 Hazard control. Section 8.5 specifies the requirement to conduct the preliminary steps of describing and understanding raw materials and product,

in the context of potential food safety hazards, intended use (including reasonably expected mishandling and misuse of end product), flow diagram, hazard analysis, selection and validation of control measures and then, crucially, in 8.5.4 "Hazard control plan". At this point the term "HACCP plan" is combined with "OPRP" and demoted to appearance within brackets after the section title - Hazard Control Plan. This is different to the previous version of ISO22000 (the 2005 standard), in which section 7.6 was very clearly titled "Establishing the HACCP Plan".

The same theme here is picked up in the BRCGS Global Food Safety Standard in its 8th issue, wherein section 2 is entitled "The Food Safety Plan - HACCP". BRCGS, in their key changes document, discuss a slight change in terminology where the Statement of Intent to Section 2 has changed ever so slightly to "The company shall have a fully implemented and effective food safety plan incorporating the Codex Alimentarius HACCP principles". Their comment on this is as follows: "Some countries (e.g. the US) have introduced regulatory requirements that incorporate all of the HACCP processes outlined by the Codex Alimentarius but use different terminology. The specific terminology within the Standard, such as HACCP, prerequisites or critical control points, are intended to utilise the most commonly used global terminology to describe expectations. Sites are not required to use the specific terminology of the Standard, but are expected to fully meet the requirements".

We can conclude from two of the most commonly used global food safety standards, that "HACCP" is not disappearing. Why would it? Despite being methodology that's 55 odd years old (with of course improvements in implementation and practice) it still works. Rather, terms being used within the food industry are changing somewhat, and you will not always necessarily hear the term HACCP, but instead may hear HARPC, "Food Safety Plan" or "Hazard control plan", or similar. The aim and outcome though, in terms of producing safe food and protecting the consumer, is the same, regardless of the terminology used. **



DESIGNED BY FARMERS

e were farmers before we started designing the modular farming system. And we're still farming today, using the same technology we've developed for our customers. We sincerely believe actively growing food is the first and foremost requirement to building farms with farmers in mind.

We want to make food grown by locals a reality to fulfill the ever-growing demand for fresh and longer lasting produce. Our unique perspective gained, from the experience growing and harvesting food in the farms we made, is the reason we've built something so different at Modular Farms. Rest assured, when the day comes for you to join this exciting industry, we'll be there with you every step of the way.

THE MODULAR FARM SYSTEM

Our Modular Farm System is a complete vertical farming suite designed from scratch to do one thing very well; consistently grow healthy food. We've redesigned and rebuilt everything we knew about container farms to bring the world our Primary Module. From the 'purpose-built' container, to the custom LED's, to the seedling/propogation table that took months to develope; every detail was scrutinized to deliver an indoor farm unlike anything else on earth.

Step inside a Modular Farm and you'll never look at container farms the same again.

FEATURES AT A GLIMPSE

Plant Volume

Installed are 5280 plant sites (ie: basil) within 240 x 2.44m ZipGrow Towers however there is the flexibility to adjust the placement for small or large plant types.

Lighting

The LED lights were specifically designed to grow crops, and to promote maximum growth, these lights are placed at optimal distance to the plant canopy.

Insulation

With an 4.2R value at 100mm thick, and coupled with a sealed controlled environment, the insulation is improved by approx 80% compared to a shipping container. External climate influences are also less impactful.

Custom HVAC design and dehumidifiers are capable of removing and recapturing over 100 litres of transpired or evaporated water from the air.

Size

The 'purpose-built' 3x3x12m farm has an increase of 0.25m in height and 0.5m in width compared to a standard shipping container therefore allowing wider aisles for easy planting, crop inspections and harvesting.

Clean

Chemical free, NO pesticide, NO insecticides or herbicides. Clean fresh LOCAL produce.



Water

Using less than 40lt of water a day. Inside the farm we are capable of removing and recapturing up to 100 litres of transpired or evaporated water from the air via our dehumidification process.

ANY QUESTIONS? WE HAVE YOUR ANSWERS

What can I grow in my Modular Farm?

Leafy greens, herbs, micro-herbs, brassicas, even tomatoes and strawberries!

What can I put my Modular Farm?

Anywhere, hot or cold climate – all you need is access to water and power

Where can a farm live?

- Remote communities and properties
- Island communities and resorts
- Food wholesalers and agents
- Retailer outlets supermarkets, food stores
- Educational facilities
- Small business owners
- Government Research and Development
- Restaurants, cafes, caterers
- Urban spaces

Is it portable on a truck?

Yes! The Modular Farm was designed to be the absolute biggest container possible that could still ship on a freight truck.

How are the farm modules controlled?

Lighting, climate, fertigation and irrigation can all be controlled and automated by your cloud controllers. You can remotely see, monitor and control your farm with the Modular Farms App from your smartphone.





How much money can I make?

Farmer ROI is very important to us. Our system is designed to maximize plant growth in order to ensure farmers are happy and successful. All farms are set up differently for different markets, however our team can work on a complete business plan with you. *

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HACCP AUSTRALIA

eliminate the hazard - reduce the risk



Look closely at who supplies the food industry with the very best food safe materials, services and equipment.

What do these companies and others like them have in common?



















www.haccp.com.au

Extracting foreign metal fragments from liquid lines



Hygienic and efficient metal fragment control in liquid processes without the limitations of liquid trap magnet systems.

inger-style inline liquid trap magnets (also referred to as finger pot magnets) are a conventional way of extracting foreign metal fragments from liquid lines such as chocolate, soup, beverages and similar ingredients. They consist of a number of magnetic fingers/cartridges/tubes which are welded to a lid. The magnetic fingers are projected down into the flow and retain metal fragments as the liquid flows in, around and out of the pot magnet housing.

However, such magnetic trap magnets have a number of inherent problems that can have a negative effect on separation efficiency and metal fragment control. Users reported difficulty in handling bulk liquid magnet systems, found the time taken to clean multiple finger bars excessive and had experienced issues with magnet fingers becoming bent or, in some cases, breaking off.

Recognising these problems Magnattack decided to develop a modernised magnetic separation solution for use in liquids.

The solution

After consulting with users who were experiencing these difficulties, Magnattack developed the RE80 Liquid Pressure Pipeline System (PPS). The Liquid PPS features +11,000 Gauss magnet elements, designed to intercept the flow of liquid product lines. The RE80 probes successfully extract

and retain foreign magnetic fragments such as work-hardened stainless steel and stone particles, fine wear fragments and rust.

The Liquid PPS Magnets offer hygienic and efficient magnetic separation and have proven to be a major success in efficiently removing foreign metal bodies from liquid lines in hundreds of applications over many years.

The PPS Systems have been proven effective in a wide variety of applications, some of which include syrups, chocolate, soup, sauce, beverages, viscous pet food slurries, ice-cream manufacturing, cheese processing, pie manufacturing, brine, fruit juice and food paste.

With the development of advanced magnetic separation systems, such as the RE80 Liquid Pressure Pipeline Magnet, the food industry can be assured of the highest level of metal contamination risk reduction without risking important sanitary and food safety considerations.

The systems are certified by HACCP International and are designed in accordance with current food safety standards such as International Food Safety Standard 0909MAGSEP 1-2010.

Liquid Pressure Pipeline System v liquid trap magnets

Cleaning efficiency

Liquid trap magnets present cleaning difficulties due to numerous 1" bars (typically 5–7 fingers). This has often

CONTINUED PAGE 16 ISSUE 26 2019 | HACCP AUSTRALIA | 15

resulted in contaminants being missed at cleaning intervals and has also made it difficult for operators to detect cracks or fatigue in the magnet fingers.

In comparison, Liquid PPSs feature only two, larger probes, therefore reducing cleaning and downtime. Each probe can be removed individually, ensuring it is able to be fully inspected and cleaned before being returned to the product flow. This system can also be CIP cleaned prior to cleaning of magnets.

WHS/OHS

Liquid trap magnets are often heavy and the entire pot lid must be removed for cleaning. This can potentially result in operator WHS risks. To overcome this, Liquid PPS probes are lightweight and operators need only to remove one probe at a time – therefore reducing the risk of injury caused by handling and lifting heavy equipment.

Leaks and blockages

Liquid trap magnet lids are necessarily large to incorporate multiple bars, so more force over a larger area incurs more lbs per sq inch pressure, which makes them harder to seal than BSM or tri-clamp connections. Most housings are cast stainless steel, which is magnetic. This hinders the entry and exit of the magnets, making it difficult to align for a good seal.

The Liquid PPS offers efficient magnetic separation without leaks, blockage or distortion. Also available within the PPS range is the well proven and patented tear drop probe magnets, that assist in flowability and also minimise bulk density breakdown. BSM or Triclovers seals are used to securely seal probes to the housing, therefore reducing the risk of leakage.

> The Liquid PPS Magnets offer hygienic and efficient magnetic separation and have proven to be a major success in efficiently removing foreign metal bodies from liquid lines in hundreds of applications over many years."

Dead-zones

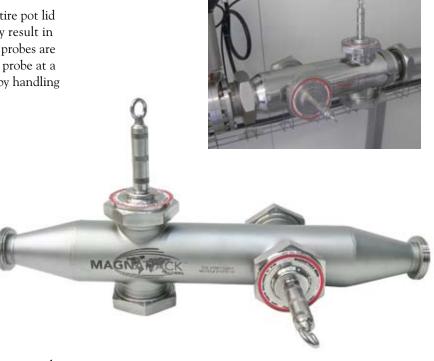
The 'dead-zone' in liquid trap magnets provides a space for contaminants and product to rest - this is often unhygienic and risks magnetic contamination returning to the product flow.

In contrast, the sanitary construction of the Liquid PPS System and high-intensity magnet elements installed at right angles eliminate dead-zone and increase magnetic separation

efficiency with over 80% coverage of product stream as required by Food Safety Standard 0909MAGSEP 1-2010.

Damage

Breakage of magnet fingers is a frequently reported issue. Most liquid trap magnet designs consist of 1" diameter magnet bars welded to the lid. Often, fatigue and accidental dropping of the magnet results in magnet fingers becoming dented, bent or broken.



The risk of damage is minimal in RE80 Liquid PPS Systems. They are constructed using solid structural fixing, larger diameter bars and structural welding techniques to avoid fatigue and breakage. In addition, the PPS comes with 3 years' warranty on the magnet structural integrity.

Cost-effectiveness

In the case of one magnet finger becoming damaged, the entire pot lid and all fingers on a liquid trap system must be replaced. This can be a costly exercise.

In contrast, the Liquid PPS system is much more cost effective to repair as, in the unlikely event of damage, only one probe would need to be repaired or replaced.

Specialised focus

Magnattack Global technicians concentrate solely on the food, beverage and pharmaceutical industries. This specialised focus ensures that the company is able to provide a current, relevant and knowledgeable source in regards to foreign metal fragment control. *



Magnattack Global www.magnattackglobal.com



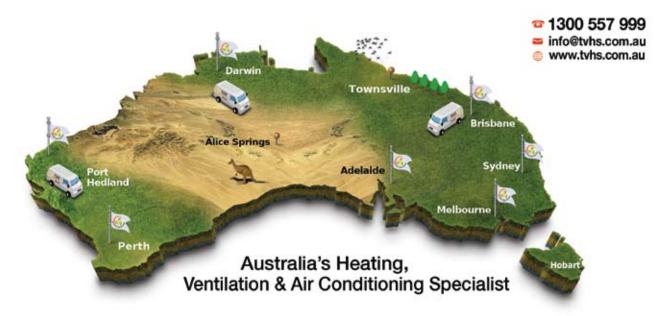












- Specialist in the Australian Mechanical Services and Ventilation Hygiene Industry
- National Solution coverage in metro, remote and regional areas
- Self Delivered and Differential path to market
- Over 20 years experience in diverse industries





Food Safety Culture,

from conceptual idea to action plan





By Richard Mallett, Managing Director, HACCP International EMEA

ince 1st February 2019, food processing sites have been audited against the much-heralded new version of the BRC Global Food Safety Standard which is now in its 8th issue. The last half of 2018 saw a flurry of activity as sites busily tried to prepare themselves, accessing any guidance that they could, including the BRCGS Interpretation Guide to this issue of The Standard. The one area which saw many sites scratching their heads, despite the case studies offered in the Interpretation Guide, was how to demonstrate that food safety culture has been measured, and a plan of action put in place to improve food safety culture. In this issue of HACCP Australia Food Safety Bulletin, we explore what is meant by Food Safety Culture and what mechanisms are important to measure.

Food Safety Culture

Food safety culture is well described in the Interpretation Guide to Issue 8 of the BRC Global Food Safety Standard, which is freely available at the BRCGS global standards bookshop, which states that "a proactive, positive culture within a company can make all the difference in the effectiveness of the food safety and quality plan, and its consistent implementation throughout the site". Food safety culture requires a top down approach in which senior management lead the way in promoting a good food safety culture, involving all colleagues at their site, so that it is "felt" by everyone. It is about the creation of an ethos that permeates throughout the organisation, in which all members of staff, at all levels, feel involved and proud of the food safety and culture plan, and feel that they own and play a part in that plan. The creation of such an ethos removes the barriers of old in the food industry, which could harm or hinder the food safety and quality plan, where some staff simply could not "see" the reason for food safety and quality, why it was important, and what their part was within it. You can imagine this when

you perhaps think of some of the feelings amongst staff within establishments which do not promote a good food safety culture, with thoughts amongst staff expressed such as:

- My boss doesn't care as long as I get the job done
- It's all about profit and money here
- I feel afraid to speak up
- I'm not comfortable with this
- There's no point saying anything anyway!

As opposed to an organisation with an implanted good food safety culture, with much better thoughts expressed like these:

- Everyone is respected here
- I'm not forced to do things I'm uncomfortable with
- It's about profit, but they care about safety too.
- I'm really happy to shout if something doesn't seem right
- I can suggest things, and they take notice!

Food Safety Culture Plan

The creation of a food safety culture plan is not quite as easy as 1-2-3! But one must start somewhere, and where better than gap analysis to determine the current food safety culture ethos, which in turn allows for a prioritised plan to begin improving the current ethos. A survey to explore the current standing of food safety culture (the ethos) within these 4 categories is perhaps a good start:

- People exploring empowerment, behaviour, mentoring, encouragement, teamwork and training effectiveness
- Process exploring communication, infrastructure and how this impacts on working lives, access and understanding of the key food safety and quality policies
- Purpose exploring how staff feel about the moral compass of the organisation, ethics and prioritisation of core food safety and quality values
- Forward planning how staff feel they are involved in planning decisions that will affect their roles, how

valued they feel particularly in their growth, training and development

These categories are described in a Campden BRI White Paper on the matter and indeed those members of that organisation may opt to subscribe to the third-party scheme endorsed by that organisation. Some food businesses however are not members and may not have the finances to do that. In this case the work needs to be done in-house. This takes some thought but is not an insurmountable challenge. Questions could be generated under these four categories to explore how staff feel about their organisation. This is not that difficult with a bit of thought behind it. To illustrate this, a few example questions, for the first category (people) is presented below. Following a similar process, several questions could be established per category:-

- How confident are you about what is expected of you in
- How constructive do you think training is, in terms of making a lasting impact and helping you to make changes where needed?
- How involved do you feel in your team?

This could be implemented as a paper or electronic questionnaire that staff can complete, anonymously. It is useful to ask people to rate their answers perhaps on a 1 to 5 scale from 1 (this aspect is very bad for me) to 5 (this aspect is strong for me). Scoring turns this from a qualitative to a quantitative exercise.

People do not like to feel under undue pressure, as it may influence their answers, or indeed whether they feel like

completing the questionnaire at all. It is important to provide them with a cover of anonymity, should they so choose it. This means allowing surveys to be completed anonymously and submitted to someone who is not their direct manager. For some staff, this might perhaps be the receptionist, or canteen manager, with their agreement of course, or even an outside consultant.

Once collected, either from all staff, or a representative percentage of the workforce, then the job of analysis begins. An organisation can identify where an aspect scores poorly overall and then set about developing an action plan for this. From the example questions above, imagining a poor overall score for "How involved do you feel in your team", an action plan may consist of team building exercises or improved communications between the members of a team, and indeed between teams. As in any corrective and preventive action plan there is a need to gain senior management commitment to instigate the improvement, to have someone manage each improvement project, to set a timescale and, importantly, to set a measure of success – this may be a short survey (think of a conference or training course feedback form). Section 1 of the BRCGS Global Food Safety Standard requires senior management to commit to quality objectives. This mechanism could be used for the setting of culture objectives, accepting that, as described in the BRCGS Interpretation Guide, a food safety culture plan and the actions arising from that, do not need to be an annual event. It may be a 3 or even 5-year strategic plan. However long an organisation decides that strategic plan will be, one thing is for certain, food safety culture is here to stay. *





BRISBANE MELBOURNE LEETON SYDNEY



Food Safety Information Council www.foodsafety.asn.au

Food safety information for the consumer and of course, the famous 'Food Safety Week' activities held in November each year. Lots of good information here as the Food Safety message is spread to the public. Check out the fact sheets and learn lots.

The Product Safety Australia website www.productsafety.gov.au

The website provides a single-entry point for recalled products, directing consumers to the appropriate regulator. It also provides a range of safety information across various product categories, as well as enabling consumers to report unsafe products. The site has a section devoted specifically to 'food' it is easy to keep a look out for products you might buy or sell.

CCP Food Safety Monitoring Systems (HACCP lite)

www.haccp.com.au/services/ccp-food-safetymonitoring-systems/

Shameless self-promotion here (snuck it in half way down though) for the new CCP Food Safety Programme system. If you are in the food service industry, this could be a great option for you! Simple, food safety.

News about food in Australia www.ausfoodnews.com.au

Well you could call this site 'Australian Food News' which is exactly what they have done and is exactly what the content is all about....Food. With links to new products, legislation and international news, this site makes for an excellent browse over your lunch time sandwich.

The mother of all graveyards www.famaker.com.au

With over 10 acres of food equipment, F. A. Maker are the largest used process equipment dealer in the Southern Hemisphere. An excellent option when building a pilot operation and plenty of possibilities when scaling up your facility. *



The Roxset Multi-layered Flooring System

Roxset Flooring has developed a unique product unlike any other in the market that has exceptional properties.

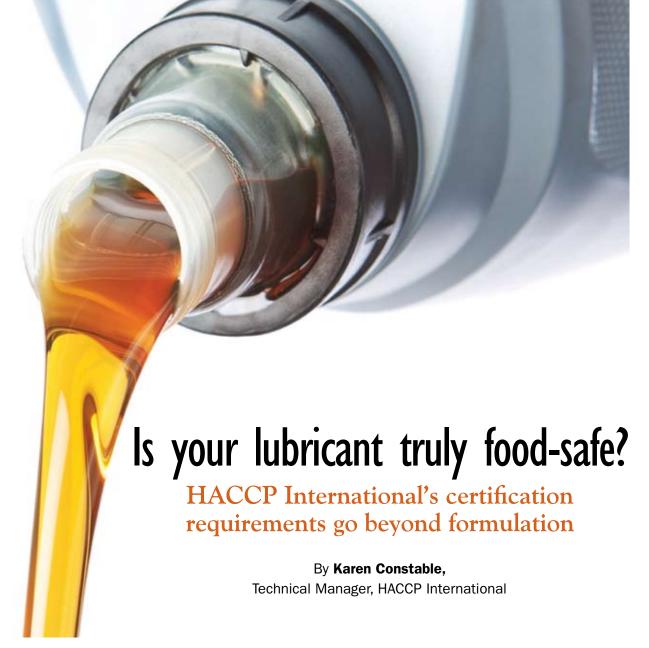
These features meet the stringent OH&S requirements with AQIS Food Safe, TGA, and HACCP particularly within the food processing industry.



Features & Benefits

- Chemical, Temperature & Impact Resistance
- Seamless floor to wall connectivity
- Eliminates cracks & bacteria growth
- Easy to clean & maintain
- Provides detail to penetration, plinths & footings
- Allows for a superior anti-slip aggregate for a long term slip resistant surface
- Meets regulatory requirements with HACCP, AQIS, Food Safe & DPI & BRC





ithin almost all food manufacturing processes there are opportunities for lubricants to come into contact with food and food packaging. Lubricants from compressor equipment can contaminate the compressed air that contacts food, conveyor chain lubricants can come into contact with food products as they move from place to place during manufacturing and gear boxes can release oils and greases. Lubricants are also deliberately made to contact food when used as release agents used to prevent food sticking to grills or baking pans.

Food manufacturers are required to use lubricants that are safe for their intended use. Lubricants for use in food processing areas are commonly marketed as 'Food Grade'. Food grade lubricants are supposed to have a low level of toxicity and are usually formulated to be a pale or clear colour and have a low odour. However, to be truly safe for use around food, lubricants need more than just a low-tox formulation.

Contrary to popular belief, there are no formal, government-regulated rules or laws that specifically define an appropriate, low-toxicity, 'food grade' lubricant. In the absence of such rules, a commonly used means of designating a lubricant 'food-grade' is NSF registration. NSF is a private American product testing, inspection and certification company.

Commonly, a designation of 'food-grade lubrication' can be based on the completion of a formulation review, and a review of label contents. Unfortunately, while an appropriate formulation makes an important contribution to food industry lubrication, there is much more to food safety than just chemical toxicity. A review based only on chemical toxicity does not address biological hazards or physical hazards to food safety from lubricants used in critical areas.

With a focus on formulation as a means to designate a lubricant 'food grade', it is easy for some lubricant manufacturers 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 foods with which they make contact.

A full assessment of the food safety profile of a lubricant should extend far beyond the traditional boundaries of checking formulations. According to the most widely accepted method for managing food safety, the HACCP protocols, which are codified by the World Health Organisation, food safety depends on the identification and minimisation or elimination of physical and biological hazards as well as chemical hazards. As such, formulation-based evaluations of 'food-grade' lubricants are missing two thirds of the story.

Martin Stone, HACCP International's Technical Director explains;

"A food-safe lubricant is one that does not introduce chemical, physical or biological hazards to food processing areas."

CONTINUED PAGE 22 ISSUE 26 2019 | HACCP AUSTRALIA | 21

Beyond formulation; a holistic approach

HACCP International evaluates lubricants for their suitability for use by the food industry using HACCP International's standard for food-safe equipment, materials and services. The standard utilises a risk-analysis approach that considers food safety risks arising from chemical, physical and biological hazards that could be presented by materials such as lubricants when used in food handling facilities.

The HACCP International standard takes a holistic approach to food safety, considering both the intended applications of use for the material being assessed as well as possible consequences from unintended use or errors in use. Food safety risk assessments are conducted by expert food safety personnel who investigate the product thoroughly, performing a hazard analysis for chemical hazards (including allergens), physical and biological hazards.

An evaluation of a lubricant for use in a food manufacturing process typically includes an in-depth consideration of the points listed below.

Chemical hazards and controls

Is the lubricant formulation such that has low mammalian oral toxicity?

In the event of unintended or unexpected contamination of food in an error scenario what are the likely outcomes for consumers of the food?

Is the lubricant manufactured, stored and transported using systems that will effectively prevent contamination with non-ingredient chemicals during batching, blending, packing and storing processes?

A food-safe lubricant is one that does not introduce chemical, physical or biological hazards to food processing areas."

Is the lubricant formulated to be free from common human food allergens?

Is the lubricant manufactured, handled and stored using systems that will effectively prevent inadvertent contamination with common human food allergens?

Is appropriate information about the presence and absence of human food allergens made available to food industry purchasers and users of the lubricant?

Is the lubricant designed, marketed and/or supplied with information available at the point of use such that it would be clear to the user about where and how it should be used within a food manufacturing facility?

Is the lubricant sold with instructions for use that reduce the likelihood that it will be over-applied such that excess product could be present in food handling areas?

Is the lubricant manufactured using systems such that it

can be expected to be manufactured in a consistent manner to the appropriately controlled formulation?

Are compliant safety data sheets (SDSs) made available to purchasers of the lubricant?

Physical hazards and controls

Is the lubricant manufactured in such a way that it is protected from contamination with dust, dirt, swarf, wires, machine parts and other foreign objects during batching, blending and packing?

Is the lubricant packed and transported to adequately protect it from dust, dirt, hair and other foreign objects during transportation and storage?

Is the lubricant packaging free from small loose parts that could become a hazard in a food factory?

Is any dispensing and application equipment supplied with the lubricant free from small parts that could become physical contaminants in a food handling area?

Are packaging parts and dispensing accessories such as lids, tubes or straws brightly coloured and firmly affixed to reduce the likelihood of them getting lost in a food handling area?

Biological hazards and controls

Is the lubricant manufactured with components that are commercially sterile?

Are components, packaging materials, manufacturing equipment and work-in-progress products protected during manufacture, packing and storage from dripping condensate, birds, rodents, insects and workers hands?

Is the lubricant manufactured under conditions that protect it from the ingress of bacteria, viruses, yeasts, moulds and protozoa pathogens that could present a risk to human health?

Is the lubricant protected from biological hazards during packing, transport and storage?

Risk-based hazard identification

Stone explains: "Depending on hazards identified during the risk-based evaluation, we may send an experienced auditor to examine manufacturing processes such as batching procedures, manual handling activities or methods for cleaning of mixing vessels between batches."

Beyond food safety there are other product characteristics that can affect a lubricant's suitability for use in the food industry. For this reason, when evaluating lubricants for the purposes of certification, HACCP International also asks:

Is each unit of lubricate labelled with a lot Identifier to allow for full traceability in the event of a food safety problem?

For lubricants designed with direct food contact applications (such as pan release agents), is appropriate information about the components available to users?

Is the lubricant free from strong odours that could taint food? Stone says: "We are concerned by the food industry's reliance upon simple formulation reviews for food safety, since the process does not address all the potential food safety risks posed by lubricants. I'm pleased that the HACCP International certification programme does take these important risks into account and mandated by the HACCP methodology."







WYPALL Essential Task

- Suitable for contact with foods
- Food Zone Primary (FZP) endorsement from HACCP International



WYPALL Color Coded Wipers

- Reduces cross contamination
- Food Zone Secondary (FZS) endorsement from HACCP International

SAFETY & PROCESS PROTECTION



KLEENGUARD G10 Flex Nitrile Gloves

- Latex and powder free
- Food Zone Primary (FZP) endorsement from HACCP International

Endorsed by





ccording to the Australian Department of Agriculture, the country's dairy industry accounted for \$4.4 billion of Australia's gross value of agricultural production and around 7 per cent of the country's export income. It has a reputation for producing good quality products that are in huge demand around the world.

In order to keep this reputation intact, part of the production process means the factories the food and beverages are produced in have to adopt clean and safe working environments. Not only for the sake of the products themselves, but for the workers, too.

A key area of any factory is its floor space. The everdemanding world of cheese and dairy manufacturing offer tough conditions for flooring in most facilities that produce and process the food. Typically, with the production of milk and milk ingredients such as cheese, ice cream, butter, cream and yogurt, they face a common challenge with concrete corrosion, dangerous, damp and wet conditions, which are compounded by heavy impact traffic.

Dairy processing floors are exposed to aggressive acids and alkaline chemical cleaners, including CIP Chemicals. Heavy-duty epoxy trowelled flooring from a company such as Roxset Health and Safety Floor Coatings handles a range of corrosive acids. This includes the likes as nitric and phosphoric acid typically found in processing and chemical storage areas. Milk and other ingredients break down on the floor, forming acidic by-products and can also damage the concrete. It is critical that companies protect their concrete from oils and chemical deterioration, while handling impact, abrasion and thermal cycling.

There are strict regulations in the dairy industry, which are required in order to meet Food Standards Australia

New Zealand Food Standards Code (FSC) Standard 4.2.4. This is a primary standard that dairy farms must adhere to and follow assiduously. Food Standards Australia New Zealand, Standard 3.2.2 - Food Safety Practices and General Requirements states: "Floors must be designed and constructed in a way that is appropriate for the activities conducted on the food premises".

When the facility gets wet, which is common in dairy production, it can lead to serious slip issues, this can escalate into expensive lawsuits if care and caution are not taken. It is critical that an anti-slip HACCP compliant aggregate is built into the full thickness of the floor. The profile of this would typically be between 6-10mm for maximum protection. Drains are important in tackling slip hazards where is it important to contour the falls with the correct anti slip aggregates. It is these types of considerations that Roxset looks into when laying down epoxy flooring at factories that specialise in dairy products.

A dairy facility floor is also challenged by extremes, like cold conditions in the coolers and warm conditions in the processing raw milk and intake side. This is where a potential for thermal shock and thermal cycling in the floor can occur leading to damage. A heavy-duty non-toxic HACCP certified epoxy coating from a company like Roxset will be sensitive to any shock. However, it can also handle very hot wash downs, which are also needed in order to keep a factory in excellent condition. *

Contact details: 1800 769 738 www.roxset.com.au



Is nutrition labelling working?

Nutrition Fac

Before we can assess whether or not nutrition labelling is effective we have to ascertain what we want from the labelling.

t a basic level nutrition labels are intended to guide the consumer in selecting food that promotes public health. The information provided should be truthful, not mislead the consumer and be consistent with dietary recommendations.

How do we measure if this is happening? Is it enough that the information on all food labels is accurate and understood by consumers? Well no. Surely to say nutrition labelling is effective we should see improvements in public health.

Questions that need addressing

- Do consumers make long-term healthier food choices as a result of having used nutrition information on food packaging?
- To what extent do nutrition labelling schemes have to be standardised to help consumers cultivate healthy eating habits? Research by FLABEL, EUFIC and the Surrey Food Consumer Behaviour and Health Research Centre in Europe and by the Australian Heart Foundation in Australia suggests that different labelling schemes can be equally effective in helping consumers identify healthy options, yet many groups assert that standardised nutrition labels are imperative.
- Is nutrition labelling beyond packaged foods useful? The menu labelling debate has moved beyond the United States to Canada, the UK, Ireland, Australia and Asia. Menu labelling research has proliferated in recent years but is limited chiefly to Europe, North America and Australia.
- How can new technologies best be used to encourage healthy food choices? Research shows that online shopping is here to stay but consumers are less likely to check nutrition information online than in-store.

Overview of the global state of play for nutrition labelling

The European Food Information Council (EUFIC), in collaboration with Landmark Europe and input from several nutrition organisations across the world, has just released the 2018 edition of the 'Global Update on Nutrition Labeling'. This report provides a comprehensive overview of the state of play on nutrition labelling today.

The report looks into:

- What are the major nutrition labelling initiatives adopted or in the pipeline to date?
- How do they work and what do the various stakeholders say?
- Where is the debate heading?
- What does the research show?

- The key takeaways from the 2018 edition are the following:
- A global proliferation of nutrition labelling initiatives, both public and private, is underway. While labels using stars and positive logos are popular in the Asia-Pacific region, South American countries are increasingly opting for health warnings. Positive logos continue to be favoured in Asia, Africa and North and Eastern Europe, while traffic lights are gaining ground in western Europe.
- Policy decisions should be based on science: the key question is how appropriate and meaningful nutrition information can be provided on the food label so that motivated consumers can act on their desire to improve their diets. There is great interest among stakeholders and the research community in the potential of nutrition labelling to guide consumers in their product choices so as to enable them to adopt more balanced eating habits. In this respect, it is clear that what matters is the overall diet, not the consumption of an individual product.
- The EU's adoption of a harmonised format for FOP labels and national-level schemes in the UK and France have made it clear that government backing is needed to support a scheme's credibility, while at the same time raising the question of how such schemes might impact international trade.
- Nutrition labelling policy should take into account r consumer use, interpretation and understanding of different nutrition labelling schemes, but ultimately it is the impact on purchasing decisions and overall diets that matters. The consumer research section of this report showed that these factors vary from country to country and between consumer segments. Most research on FOP formats has been conducted in Europe, North and South America, Australia and New Zealand. Given the potential for variance, studies in other regions are needed to understand better local consumer attitudes.
- Nutrition labelling debates are often informed more by value judgements of what consumers like than research on what is effective in influencing consumer choices. Some studies show that judgement of nutritional quality labels, GDA-based labels and health logos have a sizeable impact on consumers' preference and intention to purchase a product. This data is backed by consumer studies in Europe and Australia which confirm that different labelling systems can be equally effective in helping consumers identify healthier options, although other studies show no shortterm effect on purchasing decisions.

The full report is available on the EUFIC website. * © Westwick Farrow Media - Reproduced with permission



he launch of the Tucker's Natural Gourmet Cracker range was developed from a shared philosophy of husband and wife team Sam and Cindy Tucker. When Sam met his wife Cindy in their 20's, they both had a strong interest in health and wellbeing. Both were active sports people and wanted natural health positive products in their diet.

When the opportunity of developing a cracker that was GMO free, contained no artificial preservatives, flavours or colourings, was free from yeast, soy and MSG, and it looked like something the consumer market was asking for, they both jumped in.

In 2007, the Tucker's Natural Gourmet Cracker range was launched.

Produced from Australia's finest natural ingredients the Tucker's Natural ranges of crackers, biscuits, snacks and pastes are as tasty,

GM®

healthy and Australian as they can make them. The artisan brand produces a range to suit all occasions and needs from the Gourmet Crackers and Bites. Gluten Free Bites, Fibre Packed Snack Crackers, portion- controlled snacks, fruit pastes as well as contract manufacturing for other brands.

For eight consecutive years, Tucker's Natural has won over 62 medals at Australia's most prestigious food awards, the Sydney Royal Fine Food Awards for their superior quality, texture and taste. In 2018, Tucker's Natural Gourmet Bites Rosemary & Rock Salt won Championship Biscuit.

"The Tucker's Natural brand has been built with a very clear vision as - Australia's premium natural artisan cracker. We never waiver from this vision", said CEO Sam Tucker. "Our products have been developed with very clear attributes such as no artificial colours, flavours or preservatives. We also use no MSG, yeast or soy products. And one of the very important components for exporting, is we are a certified non-GMO brand."

"This is a massive selling point and we also pride ourselves that South Australia is the only mainland state in Australia that remains non-GMO," he said.

The key benefits of having non-GMO accreditation are-

- It enables US market access to a billiondollar specialty food market
- The ability to sell and market our products as Non-GMO to China, Hong Kong, UAE, Japan and all other export markets which require this certification
- Provides certification for all our products for domesticand international sales
- GMO ranks in the top 5 food consumer concerns globally, giving Non-GMO products a significant market advantage.



"Non-GMO fits our vision and it meets consumer demands, it is an important element in our brand story," said Sam.



Sam Tucker - Non-GMO certification achievement

Tucker's Natural is proud to be a family owned and operated Australian business. The philosophy of its beginnings remains the same today as it did when it was founded-

Better, naturally!

Contact: P: 08 8244 2422 www.tuckersnatural.com.au www.facebook.com/tuckersnatural/



For more information on Non-GMO certification go to www.gmoid.com.au or call 02 9956 6911.

NATURAL_®

TUCKER'S Do you stock Australia's most awarded crackers?





From our family to yours!

Sam Tucker

There's no better place in the world to make good food naturally than here in Australia, which is why my family love baking our delicious crackers ready for you to enjoy. It's our passion for the best that you can taste in every bite.









facebook.com/tuckersnatural

The Tucker **Family**

No artificial ingredients | Non GMO | Vegetarian | Artisan | Oven Baked | 08 8244 2422 | sales@tuckersnatural.com.au | tuckersnatural.com.au

These products are food safe

The HACCP Australia product certification scheme is particularly aimed at those organisations that are required to supply 'food safe', 'compliant' or 'HACCP 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 a 'due diligence' process and the HACCP Australia certification is designed to meet this. This independent assessment and verification of fitness for purpose offers assurance to the buyer or user that HACCP food safety protocols will not be compromised in using such a product or service correctly and that such a product is 'fit for purpose' in the food industry.

Certified products have been rigorously reviewed by HACCP Australia'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 all 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 many industrial applications.

The companies listed below carry a range of excellent food safe products or services certified by HACCP Australia. For more details, phone 02 9956 6911

ECATERING EQUIPMENTS I PROCESS	CHAMPION	Manufacturers of industrial dish and glass washers	02 9956 6911
DUIPMENT I CHEMICALS I PEST	GOLDSTEIN ESWOOD COMMERCIAL COOKING	Manufacturers of industrial dish and glass washers	1800 013 123
	OATES PTY LTD	Oates utensils and cookware accessories	1300 669 686
ACILITY FIT OUT I REFRIGERATI	TOMKIN AUSTRALIA	Cutting boards	02 8665 4675
DNSUMABLES I FLOORING I CLE	10111111110011111211	- Cataling Boards	
ER CLEANING EQUIPMENT ITEMS I LIG	BAXX AUSTRALIA	Equipment for the elimination of airborne pathogens	02 9939 4900
	EDCO (EDGAR EDMONDSON)	Food safe cleaning aids and equipment	02 9557 4411
UBRICANTS I UTENSILS I HYGIE	HYDRO ECOTECH	HeKleen Super Alkaline Ionised Water (SAIW)	0416 808 777
RODUCTS I THERMOMETERS I	MAGIC TANK	Soak tank and cleaning solution for catering equipment	0421 669 915
EPORTING SYSTEMS I CLOTHING	OATES PTY LTD	Full range of food grade cleaning equipment	1300 669 686
	OZ TANK	SS deep cleaning tanks and systems for pans and trays	1300 668 866
LEANING PRODUCTS I PROCESS	POWER CLEAN TANK/SUPER CLEAN TANK	Stainless steel soak tank and consumables	02 8338 1891
QUIPMENT I CHEMICALS I PEST	SOAKTANK AUSTRALIA	Soak tank and cleaning solution for catering equipment	1300 427 625
ACILITY FIT OUT I REFRIGERATI	TERSANO AUSTRALIA	Aqueous Ozone solution for cleaning and sanitising	02 8197 9929
	VOGTO GROUP	EZY Clean soak tank	0401 016 152
DNSUMABLES I FLOORING I CLE			
ICCLEANING AND MAINTENANCE RAGE	ACE FILTERS INTERNATIONAL	Food grade cooking oil filters	1300 555 204
SERVICES TO THE FOOD INDUSTRY	ACTIVE CLEANING SERVICES	Specialist contract cleaning services for food premises (Adelaide region)	08 8244 9518
COLEME DEODUCTO I THERMORE	BORG CORPORATE PROPERTY SERVICES	Specialist contract cleaning services for food premises	03 9463 1300
GIENE PRODUCTS I THERMOM	CHALLENGER SERVICES GROUP	Specialist contract cleaning services for food premises	1300 248 249
REPORTING SYSTEMS I CLOTHIN	COOLCLEAN	Specialist cleaning services for the food industry (Melbourne region)	03 8765 9500
EANING PRODUCTS I CLEANING	FLICK ANTICIMEX	Washroom services for the food industry and premises	1300 656 531
	INITIAL HYGIENE	Bathroom services for the food industry and premises	1300 731 234
RODUCTS I PROCESSING EQUIP	LOTUS FILTERS	Filters and filter services for range hoods and food facilities	1300 653 536
CHEMICALS I PEST CONTROL I	OCS SERVICES	Specialist contract cleaning services for food premises	1800 651 729
CILITY FIT OUT I REFRIGERATION	PGS AUST HOLDINGS	Specialist contract cleaning services for food premises	02 8021 6239
ONSUMABLES I FLOORING I CLE	SHEPHERD FILTERS	Disposable oil and grease kitchen filters for food premises	1300 365 777
	SRS PROPERTY SOLUTIONS	Cleaning and stewarding services	02 9836 0272
RVICES I STORAGE ITEMS I LIG	THOR MOBILE TRUCK WASH	Truck and container washing services	0437 336 344
CHEMICALS I PEST CONTROL I	TOTAL EXHAUST CLEANING CONTRACTORS TOTAL VENTILATION HYGIENE	Specialist cool room, hoods and kitchen cleaning services Specialist cleaning services for the food industry (Sydney region)	0418 192 025 1300 557 999
CILITY FIT OUT I REFRIGERATION	WASH IT AUSTRALIA	Food transport vehicle cleaning and sanitation services	1300 557 999
DISTIMABLES LELOODING LOLE	WASHII AOSHIALIA	1 ood transport verileie eleaning and sanitation services	1300 327 440
CLOTHING - DISPOSABLE GLOVES	ATS GLOBAL	Disposable gloves for the food industry	03 9580 2561
AND PROTECTIVE WEAR	BASTION PACIFIC	Disposable and reusable gloves and protective apparel for the food industry	1300 522 645
IGHTING I LUBRICANTS I UTENS	BUNZL	Disposable gloves for the food industry	03 9590 3000
GIENE PRODUCTS I THERMOM	CLEAN ROOM GARMENTS	Protective clothing: garments and laundering systems and services	02 9851 4600
REPORTING SYSTEMS I CLOTHIN	CLOROX AUSTRALIA	Chux® and Astra® disposable gloves for the food industry	02 9794 9600
	CROFT & COMPANY	Disposable gloves for the food industry	07 3274 3900
CLEANING PRODUCTS I CLEANIN	EDCO (EDGAR EDMONDSON)	Reusable gloves for the food industry	02 9557 4411
RODUCTS I PROCESSING EQUIP	ELINE FOOD PROCESSING SUPPLIES	Protective clothing for the food industry	02 9804 0757
HEMICALS I PEST CONTROL I FA	FOODCARE SYSTEMS	Disposable and reusable gloves and earplugs for the food industry	1800 211 290
	HIGHGATE GROUP KIMBERLY — CLARK PROFESSIONAL	Range of disposable gloves	1800 089 456 1800 647 994
T OUT I REFRIGERATION I CONS		Kleenguard disposable gloves for the food Industry	03 9706 5609
LOORING I CLEANING SERVICES	LALAN GLOVES SAFETY CARE LIVINGSTONE INTERNATIONAL	Resuable gloves and protective apparel for the food Industry Disposable gloves and protective apparel for the food Industry	1300 306 762
ORAGE ITEMS I REFRIGERATION	MEDICOM	Disposable gloves and protective apparer for the food industry	1300 818 168
DNSUMABLES I FLOORING I CLE	MEDLINE INTERNATIONAL TWO AUSTRALIA	Disposable gloves for the food Industry	1800 110 511
	MUN AUSTRALIA PTY LTD	Disposable gloves for the food Industry	1800 456 837
IGHTING SERVICES I STORAGE	OATES	Reusable gloves for the food industry	1300 669 686
IGHTING I LUBRICANTS I UTENS	PARAMOUNT SAFETY PRODUCTS	Disposable and reusable gloves for the food industry	03 9762 2500
GIENE PRODUCTS I THERMOM	PREMIER SUPPLIES	Disposable gloves for the food industry	1300 880 051
	PRO PAC PACKAGING	Disposable and reusable gloves for the food industry	02 8781 0600
REPORTING SYSTEMS I CLOTHIN	RCR INTERNATIONAL	Pro-Val disposable gloves and protective apparel for the food Industry	03 9558 2020
LEANING PRODUCTS I CLEANING	RESTOCK	Disposable and reusable gloves and protective apparel for the food Industry	1300 300 188
RODUCTS I PROCESSING EOUIP	RODBURN PTY LTD	Protective clothing for the food industry	1800 339 779
	SUNTAN HEALTHCARE PRODUCTS	Disposable gloves for the food industry	08 8338 0950
HEMICALS I PEST CONTROL I FA	THE GLOVE COMPANY	Disposable gloves for the food Industry	02 4916 3000
TOUT I REFRIGERATION I CONS	ULTRA HEALTH MEDICAL	Disposable gloves and protective apparel for the food Industry	03 9790 6411
LOORING I CLEANING SERVICES	UNIVERSAL CHOICE WHOLESALER	Disposable gloves and protective apparel for the food Industry	1300 727 203
ORAGE ITEMS I LIGHTING I CHE	WESTLAB	Disposable gloves for the food Industry	1800 358 101
TOTALE TIEWS I LIGHTING I CHE	YAP TRADING COMPANY	Disposable and reusable gloves for the food industry	02 9826 8299
EST CONTROL I FACILITY FIT O	ENERGY AND GARDON CONTROL		
REFACILITY DESIGN AND ONSUMABLE	ENERGY AND CARBON SOLUTIONS	Food safe energy efficient solutions	1300 130 024
OPERATION SERVICES	UNIVERSAL FOODSERVICE DESIGNS	Design services for production facilities	02 4329 0630
PEACILITY EIVILIDES AND FIT OUT 1110	AEDIC ENVIDONIMENTAL	AgricCuard removable film for agating rengaleged	02 02// 1215
ER FACILITY FIXTURES AND FIT OUT I LIG	AERIS ENVIRONMENTAL AQUALUMA LED LIGHTING	AerisGuard - removable film for coating rangehoods	02 8344 1315
UBRICANTS I UTENSILS I HYGIE		Hygienic LED Canopy Light and Hygienic LED Highbay Automatic rapid close doors	1300 145 555
RODUCTS I PROCESSING EOUIP	ASSA ABLOY ENTRANCE SYSTEMS AUSPRESS	Automatic rapid close doors Stainless steel drainage hardware	1300 131 010 1300 287 773
EST CONTROL I FACILITY FIT OL		Specialist coating materials	
	CAMELEON COATINGS & PAINT MANUFACTURERS CARONA GROUP	Coldshield's thermal doors for food premises	08 9302 2577 02 4702 6655
REFRIGERATION I CONSUMABLE	DYSON LIMITED	Suppliers of food safe hand dryers	1800 426 337
OORING I CLEANING I LIGHTING	ELECTROLUX PROFESSIONAL	Washers, ironers and finishing equipment	1300 888 948
JBRICANTS I UTENSILS I HYGIEN	ELPRESS	Hygenic entrance equipment	1800 882 549
	ENLIGHTEN	Kascade-LED highbay for use in food production and industrial areas	02 8084 6971
RODUCTS I PROCESSING EQUIP	GREEN DRAIN	Floor drain trap seats	0406 033 446
B FACILITY FIXTURES AND FIT OUT CONT	HALTON	Suppliers of extraction hoods and ventilation devices	0412 702 145
IBRICANTS I LITENSUS I HYGIEI	HANECO LIGHTING	Hygenic weather-proof battens, highbay and lowbay LEDs	08 8297 6373
ELLOANTO I OTENOIDO I ITI GILI			30 0201 0010

EFACILITY FIXTURES AND FIT OUT CONT.S QUIPMENT I CHEMICALS I PEST	JET DRYER LUXURY PAINTS MANTOVA	Suppliers of food safe hand dryers Specialist coating materials Food grade shelving and storage solutions	1300 071 041 07 3375 3199 02 9632 9853
ACILITY FIT OUT I REFRIGERATIONSUMABLES I FLOORING I CLE	MODULAR FARMS PHOFNIKS	Modular food growing facility Suppliers of Gif Activent demountable ventilated ceilings	1300 040 453 1300 405 404
RVICES I STORAGE ITEMS I LIG	SHINE ON (Home Green Pty Ltd trading out)	Range of LED canopy lights	1300 013 648
UBRICANTS I UTENSILS I HYGIE	Thorn Lighting Wurth Australia & New Zealand	Food safe lighting and fit out solutions for food handling facilities ORSY - organisation system	1300 139 965 1300 657 765
RODUCTS I THERMOMETERS I	ZUMTOBEL	Food safe lighting and fit out solutions for food handling facilities	1300 139 965
FLOORING WALLS AND MATTING	3M ALTRO SAFETY FLOORING AND WALLING	Specialist safety matting for food and beverage areas Specialist food premises flooring and wall panels	136 136 1800 673 441
QUIPMENT I CHEMICALS I PEST	BARDWELL SAFETY MATTING	Specialist safety matting for food and beverage areas	03 9499 5991
ACILITY FIT OUT I REFRIGERATI	BASF CONSTRUCTION CHEMICALS BETHELL FLOORING	UCRETE® Flooring System Supplier and installers of specialist food premises flooring	1300 227 300 07 3865 3255
DNSUMABLES I FLOORING I CLE JIGHTING SERVICES I STORAGE	BLUESCOPE STEEL CLIFFORD FLOORING	Colorbond® Permagard® Anti-bacterial Coolroom Panelling Products Epoxy and polyurethane flooring systems	1800 022 999 1800 695 695
JIGHTING SERVICES I STORAGE	DEFLECTA CRETE SEALS FLOWCRETE	Anti-bacterial flooring product and services Industrial flooring and commercial resins experts	03 9318 9315 07 3205 7115
GIENE PRODUCTS I THERMOM	GENERAL MAT COMPANY & IDENTITY MATTERS	Specialist safety matting for food and beverage areas	1800 625 388
REPORTING SYSTEMS I CLOTHIN	HYCHEM NUPLEX CONSTRUCTION PRODUCTS	Supplier of specialist food premises flooring Food safe floor surfaces for food handling facilities	02 4646 1660 02 9666 0331
LEANING PRODUCTS I CLEANING RODUCTS I PROCESSING EQUIP	OXTEK AUSTRALIA PROFLOOR EPOXY SYSTEMS	Food safe concrete treatment systems and vinyl flooring solutions Flooring installation and maintenance services	03 9798 7534 02 9674 7457
CHEMICALS I PEST CONTROL I	ROXSET AUSTRALIA SIKA	Supplier and installers of specialist food premises flooring Sikafloor polyurethane flooring systems	1800 769 738 1300 223 348
CILITY FIT OUT I REFRIGERATIONSUMABLES I FLOORING I CLE-	SILIKAL GmbH	Silikal MMA fast cure flooring systems	03 9662 1775
FOOD SERVICE EQUIPMENT	AACLAIM QUALITY SALES	Food service and food storage light equipment	02 9525 1049
AND UTENSILS CHEMICALS I PEST CONTROL I	I-MILK LANCER BEVERAGE SYSTEMS	Milk dispensing equipment - i-milk V1 Customised beverage dispensing systems	0409 855 928 1300 146 744
CILITY FIT OUT I REFRIGERATION	SIX SIMPLE MACHINES SPM DRINK SYSTEMS	The Juggler - Cafe milk tap system Soft serve dispenser machine	02 9666 5126 02 9316 7878
DNSUMABLES I FLOORING I CLE JIGHTING SERVICES I STORAGE	TANCO	Disposable piping bags (New Zealand)	+64 7 549 5675
IGHTING SERVICES I STORAGE	THE HUNGRY PRODUCT COMPANY TRADING PLACES FOODSERVICE MARKETING	Suppliers of Moooi and Cool Blue disposable piping bags Supplier of Kee-seal™ disposable piping bags	07 3273 8111 03 9314 0053
GIENE PRODUCTS I THERMOM	WATERLOGIC AUSTRALIA	Tailored drinking water solutions	1300 866 201
PHANDCARE CONSUMABLES CLOTHING PRODUCTS I CLEANING	ASALEO CARE DEB AUSTRALIA (SC JOHNSON PROFESSIONAL)	Tork hand hygiene liquids, soap dispenser, hand towels and dispensers Range of cleansers, lotions, dispensers and sanitiser	1800 643 634 1800 090 330
RODUCTS I PROCESSING EQUIP	GOJO AUSTRALASIA KIMBERLY – CLARK PROFESSIONAL	Range of liquid hand care and dispensers Range of soaps, cleansers, towelling products and dispensers	02 9016 3882 1800 647 994
HEMICALS I PEST CONTROL I FA	LIVINGSTONE INTERNATIONAL	Hand care liquids - liquid hand wash	1300 306 762
TOUT I REFRIGERATION I CONS	SOLARIS PAPER	Livi hand towels and dispensers	1300 832 883
ORAGE ITEMS I REFRIGERATIO	HOSHIZAKI LANCER	lce machines for hotels, restaurants and catering outlets	1300 146 744
CONSUMABLES	3M ABC TISSUES	Scotch-Brite™ cleaning chemicals, cloths, scourers and sponges Paper towels for cleaning	136 136 02 8787 2222
IGHTING I LUBRICANTS I UTENS	ABCO PRODUCTS AERIS ENVIRONMENTAL	Cleanmax heavy duty wipes and scourers AerisGuard products for air-conditioning and refrigeration systems	1800 177 399 02 8344 1315
GIENE PRODUCTS I THERMOM	AIMIX CHEMICALS ASALEO CARE	Sanitisers for food contact surfaces and production areas Tork premium colour coded specialist cloths	02 9623 3288 1800 643 634
REPORTING SYSTEMS I CLOTHIN LEANING PRODUCTS I CLEANING	BASTION PACIFIC BUNZL	Multi-purpose cleaning wipes	1300 522 645 03 9590 3000
RODUCTS I PROCESSING EQUIP	CAPRICE PAPER	Kwikmaster scouring pads and wipes. Katermaster baking paper Duro Wiper Rolls Heavy Duty and paper towels for cleaning	03 9725 3522
CHEMICALS I PEST CONTROL I	CHEM-PACK SUPPLIES AUSTRALASIA CLOROX AUSTRALIA	Lucart AirTech wipes Chux®, Astra®, OSO® and Glad® range of materials	02 8536 9500 02 9794 9600
CILITY FIT OUT I REFRIGERATIO	ECOCATALYSTS EDCO (EDGAR EDMONDSON)	Specialist cleaning liquid for hard surfaces Disposable cleaning wipes, industrial scourers and scouring sponges	1800 207 009 02 9557 4411
DNSUMABLES I FLOORING I CLE ERVICES I STORAGE ITEMS I LIG	ENVIRO ASSOCIATED PRODUCTS ENVIROFLUID	Veora disposable cleaning wipes Supplier of kitchen cleaning chemicals	1300 962 898 1800 777 580
CHEMICALS I PEST CONTROL I	EWATER SYSTEMS	Electrolysed water cleaning and sanitising systems	1300 392 837
CILITY FIT OUT I REFRIGERATION	FOODCARE SYSTEMS FOREVER GLEAM CHEMICALS AUST.	Disposable mop head system and wipes Wipes	02 6953 7081 02 9682 5555
DNSUMABLES I FLOORING I CLE JIGHTING SERVICES I STORAGE	GOJO AUSTRALASIA ITW POLYMERS AND FLUIDS	Surface sanitiser Food safe aerosol cleaner	02 9016 3885 1800 063 511
JGHTING SERVICES I STORAGE	KIMBERLY - CLARK PROFESSIONAL	Disposable cleaning wipes and colour coded microfiber cloths	1800 647 994
(GIENE PRODUCTS I THERMOM	KOH AUSTRALIA LANOTEC	Koh Universal Cleaner for the food industry and premises PowaWash and Citra-Force cleaning liquids	1300 000 564 07 3373 3700
REPORTING SYSTEMS I CLOTHIN	LIVINGSTONE INTERNATIONAL MAXWELLS H20 SERVICES	Lint free bench wipes Boiled water treatment chemical	1300 306 762 07 4033 2232
LEANING PRODUCTS I CLEANING RODUCTS I PROCESSING EQUIP	OATES QUEENSLAND TISSUE PRODUCTS	Full range of kitchen cleaning materials Paper towels for cleaning	1300 669 686 07 3331 2100
CHEMICALS I PEST CONTROL I	RCR INTERNATIONAL RESTOCK	Proval colour coded wipes Multi-purpose cleaning wipes	03 9558 2020 1300 300 188
CILITY FIT OUT I REFRIGERATIO	SOLARIS PAPER	Livi colour coded premium wipes and napkins	1300 832 883
DNSUMABLES I FLOORING I CLE RVICES I STORAGE ITEMS I LIG	VARDON INDUSTRIES WURTH AUSTRALIA & NEW ZEALAND	De-Solv-it is a cleaner designed to remove adhesive substances Range of specialist adhesives, solvent cleaners and sealants	1800 337 658 1300 657 765
HLABELS FOOD GRADE ONTROL I	ABACUS INDUSTRIES	Food packaging labels	1800 028 924
CILITY FIT OUT I REFRIGERATIONSUMABLES I FLOORING I CLE	HANSEN PRINTERS LABEL MAKERS	Self-adhesive labels and carcass tags Labels, carcass tags and package inserts	03 5721 2829 1300 735 399
JIGHTING SERVICES I STORAGE	LABEL POWER P & I PTY LTD TRADING AS GLAMA PAK	Food safe labels for food products and food retail Labels for food and beverage packaging	1300 727 202 1300 789 945
IGHTING I LUBRICANTS I UTENS	THE VAN DYKE PRESS WEDDERBURN	Food and beverage labels, lidding and packaging for FMCG Food safe labels for food products and food retail	02 9938 5666 1300 970 111
RELUBRICANTS = FOOD GRADE CLOTHIN	CRC INDUSTRIES	Provider of lubricants and lubrication supply systems	1800 224 227
EANING PRODUCTS I CLEANING	GSB LUBRICATION SERVICES ITW POLYMERS AND FLUIDS	Provider of lubricants and lubrication services to the food industry Rocol food grade lubricants	1300 660 569 1800 063 511
RODUCTS I PROCESSING EQUIP HEMICALS I PEST CONTROL I FA	LANOTEC AUSTRALIA WURTH AUSTRALIA	Suppliers of food grade lubricants Suppliers of food grade lubricants	07 3373 3700 1300 657 765
T OUT I REFRIGERATION I CONST	ACTIVE MAGNETIC RESEARCH	Magnetic separation technology and magnet validation services	02 4272 5756
LUURING I CLEANING SERVICES TORAGE ITEMS I LIGHTING I CHE	AURORA PROCESS EQUIPMENT	Magnet verification services	+64 7 847 5315
PEST CONTROL I FACILITY FIT OF	MAGNATTACK GLOBAL	Food safe magnetic separators for liquids and powders	02 4272 5527
MANAGEMENT SYSTEMS REPRIGERATION TO SUMABLE	BRAND M8 GS1 AUSTRALIA	Automated and web-based checklist management systems Recall management system	03 8645 5500 1300 227 263
LOORING I CLEANING I LIGHTIN	MUDDY BOOTS SOFTWARE	Cloud-based software system for food safety management	03 9874 0333

CONTINUED PAGE 30 ISSUE 26 2019 | HACCP AUSTRALIA | 29

MANUFACTURING EQUIPMENT ROCES EQ COMPONENTS AND CONSUMABLES S FACILITY FIT OUT I REFRIGERA CONSUMABLES I FLOORING I CL SERVICES I STORAGE ITEMS I LI LUBRICANTS I UTENSILS I HYG	ENERGY AND CARBON SOLUTIONS GARDNER DENVER INENCO GROUP SEAL INNOVATIONS SEW EURODRIVE SICK SMC PNEUMATICS TONSON AUSTRALIA	Compressed air piping systems in food manufacturing processes Servicing and maintenance of compressed air systems LDK corrosion resistant series for food and beverage Plastic and rubber sealing components for food processing Hygenic, fully sealed mechanic drive units Food safe switches, sensors and sensor solutions Suppliers of pneumatics and valves for food manufacturing Gear boxes	1300 1300 24 1800 634 077 02 9947 9200 02 9947 9259 1300 739 287 1800 334 802 1800 763 862 02 9607 4100
PRODUCTS I THERMOMETERS I PACKAGING MATERIAL IS I CLOTHIN LAND EQUIPMENT UCTS I PROCES EQUIPMENT I CHEMICALS I PES FACILITY FIT OUT I REFRIGERAL CONSUMABLES I FLOORING I CLUGHTING SERVICES I STORAGILIGHTING I LUBRICANTS I UTE	ACHIEVE AUSTRALIA ASTECH PLASTICS CAPS N CLOSURES EDCO (EDGAR EDMONDSON) FLEXPACK MICROPAK NETPACK P & I PTY LTD TRADING AS GLAMA PAK RCR INTERNATIONAL	Repacking of consumables and food products Supplier of food safe pails and lids Range of standard and custom designed caps and closures EDCO utility tub (clear) Manufacturers and printers of film packaging Manufacturers of food grade packaging materials Suppliers of food grade netting to small goods manufacturers Paperboard food packaging (secondary packaging) Pro-Val disposable crate covers	1800 106 661 1300 133 531 03 9793 1500 02 9557 4411 07 3710 3300 02 9646 3666 02 9604 4950 1300 789 945 03 9558 2020
IY PEST CONTROL EQUIPMENT HERIMOR AND MATERIALS STEWNS I CLOTH CLEANING PRODUCTS I CLEANING PRODUCTS I PROCESSING EQUIPMENT CONTROL I REFRIGERATIONS CONSUMABLES I FLOORING I CLEANING I CLEANING I PEST CONTROL FACILITY FIT OUT I REFRIGERATIONS CONSUMABLES I FLOORING I CLEANING I CLEANING I CLEANING I CLEANING I CLEANING SERVICES I STORAGE	BASF CHEMICALS BASF-GOLIATH, PHANTOM STORM & STRATAGEM BAYER BELL LABORATORIES ENSYSTEX FLICK ANTICIMEX FMC AUSTRALASIA FREEZONE PUBLIC HEALTH MAKESAFE PELGAR INTERNATIONAL PEST FREE AUSTRALIA STARKEYS PRODUCTS SYNGENTA ULTRA VIOLET PRODUCTS WEEPA PRODUCTS	Suppliers of Roguard bait stations Suppliers of rodent and insect control materials Suppliers of rodent and insect control materials Suppliers of rodent control materials Suppliers of pest control products Smart - rodent monitoring systems Suppliers of rodent control and insect control materials Suppliers of rodent control materials Suppliers of rodent tontrol materials BaitSafe® rodent bait-station device Suppliers of rodent and insect control materials Specialist electronic vermin elimination devices Range of insect control devices Suppliers of rodent and insect control materials Insect trapper device Weep hole protection devices for new or retro application	1800 006 393 1800 006 393 03 9248 6888 0427 802 844 13 35 36 13 14 40 1800 066 355 07 3869 4436 1300 065 467 07 3112 1024 02 4969 5515 08 9302 2088 1800 022 035 1800 081 880 07 3844 3744
LIPEST CONTROLLERS (FIJI) ITS I UTE HYGIENE PRODUCTS I THERMO	FLICK ANTICIMEX WG GENERA PACIFIC LTD	Specialist pest control services for the food industry Specialist pest control services for the food industry	(679) 6663437 (679) 3312633
PEST CONTROLLERS (NSWACT) CLEANING PRODUCTS I CLEAN PRODUCTS I PROCESSING EQUI CHEMICALS I PEST CONTROL I F IT OUT I REFRIGERATION I CON FLOORING I CLEANING SERVIC STORAGE ITEMS I REFRIGERATI CONSUMABLES I FLOORING I CL	AVION SERVICES AUSTRALIA CPM PEST & HYGIENE SERVICES CORPORATE PEST MANAGEMENT ECOLAB FLICK ANTICIMEX JENTEL PEST MANAGEMENT KNOCK OUT PEST CONTROL RENTOKIL STOP CREEP PEST CONTROL TERMITRUST PEST CONTROL	Specialist pest control services for the food industry Specialist pest control services for the food industry Specialist pest control services for the food industry National pest control services for the food industry Specialist pest control services for the food industry Specialist pest control services for the food industry Specialist pest control services for the food industry National pest control services for the food industry Regional pest control services for the food industry Regional pest control services for the food industry Specialist pest control services for the food industry Specialist pest control services for the food industry	1300 253 799 02 9674 5499 02 9311 1234 13 62 33 13 14 40 02 4567 8976 1300 858 140 1300 736 865 02 9371 3911 13 73 78
PEST CONTROLLERS (QLD) TS I UTE TYGIENE PRODUCTS I THERMOI REPORTING SYSTEMS I CLOTH CLEANING PRODUCTS I CLEANING	AMALGAMATED PEST CONTROL ECOLAB FLICK ANTICIMEX ORKIN AUSTRALIA T/A SCIENTIFIC PEST MANAGEMENT RENTOKIL	Specialist pest control services for the food industry National pest control services for the food industry Specialist pest control services for the food industry National pest control services for the food industry National pest control services for the food industry	13 19 61 13 62 33 13 14 40 1300 467 546 1300 736 865
PREST CONTROLLERS (SA) ING EQUIL CHEMICALS I PEST CONTROL I FACILITY FIT OUT I REFRIGERAT	ADAMS PEST CONTROL ECOLAB ORKIN AUSTRALIA T/A MURRAY PEST RENTOKIL	Specialist pest control services for the food industry National pest control services for the food industry National pest control services for the food industry National pest control services for the food industry	08 8297 8000 13 62 33 1300 467 546 1300 736 865
PEST CONTROLLERS (MC/TAS) IS I LI CHEMICALS I PEST CONTROL I FACILITY FIT OUT I REFRIGERATE CONSUMABLES I FLOORING I CL LIGHTING SERVICES I STORAGE LIGHTING I LUBRICANTS I UTEL TYGIENE PRODUCTS I THERMOT REPORTING SYSTEMS I CLOTH CLEANING PRODUCTS I CLEANING PRODUCTS I PROCESSING EQUIL CHEMICALS I PEST CONTROL	ACTION PEST AND WEED CONTROL ADAMS PEST CONTROL AMALGAMATED PEST CONTROL AVION SERVICES AUSTRALIA DAWSON'S AUSTRALIA ECOLAB FLICK ANTICIMEX HAYES PEST CONTROL ORKIN AUSTRALIA T/A STATEWIDE PEST CONTROL PESTAWAY AUSTRALIA PESTOFF PEST CONTROL PROTECH PEST CONTROL RENTOKIL STATEWIDE PEST TRAPS PEST CONTROL	Specialist pest control services for the food industry	03 9569 9388 03 9645 2388 13 19 61 1300 253 799 03 9222 2222 13 62 33 13 14 40 1300 553 365 1300 467 546 1800 330 073 03 9844 4037 1300 780 980 1300 736 865 1800 136 200 03 9390 6998
PEST CONTROLLERS (WA) CONSUMABLES CONSUMABLES CONSUMABLES CONSUMABLES CONTROLLERS CHEMICALS I PEST CONTROL CHEMICALS I PE	AUSSIE PEST INSPECTIONS ECOLAB ORKIN AUSTRALIA T/A ALLPEST WA RENTOKIL TERMITRUST PEST CONTROL	Specialist pest control services for the food industry National pest control services for the food industry National pest control services for the food industry National pest control services for the food industry Specialist pest control services for the food industry	08 9791 7065 13 62 33 1300 467 546 1300 736 865 13 73 78
COREFRIGERATORS - EQUIPMENT, 3 C. GOVERNORS AND DATA STORAGE LIGHTING I LUBRICANTS I UTELYGIENE PRODUCTS I THERMOREPORTING SYSTEMS I CLOTHER TO THE STANDARD PRODUCTS I GEAVILLE AND THE STANDARD PR	AUTOMATED FOOD SAFE TEMPERATURE COMPLIANCE CAREL COOLSAN HOSHIZAKI IGLU COLD SYSTEMS (AUSTRALIA) MISA SKANOS	Sentry temperature monitoring system Temperature controllers and supervisors for refrigeration Manufacturer's of the ChillSafe® sanitation sachet Refrigerators and freezers for hotels, restaurants and catering outlets Refrigerators and freezers for hotels, restaurants and catering outlets Modular cool room and freezer room solutions Refrigerators and freezers for hotels, restaurants and catering outlets	1300 261 688 02 8762 9200 1300 390 811 1300 146 744 02 9119 2515 1800 121 535 1300 003 822
REFRIGERATION SERVICES NG EQUI	COOLCLEAN REJUVENATORS (THE)	Specialist cleaning services for the food industry (Melbourne region) Specialist cool room cleaning and rejuvenation services	03 8765 9500 0413 333 348
THERMOMETERS, ANALYTICAL 1 CON EQUIPMENT AND SCALES G SERVICE STORAGE ITEMS LUGHTING I CO	3M IDEXX TESTO	TL 20 Temperature logger for logistics Test kits and equipment for microbiological testing of water and ice Specialist thermometers and oil testers for use in the food industry.	136 136 1300 443 399 1300 837 861
P TRANSPORT CONTAINERS LITY FIT AND PALLETS ION I CONSUMABLE FLOORING I CLEANING I LIGHT	SCHUETZ AUSTRALIA VIP PACKAGING	Plastic composite intermediate bulk containers (IBCs) and plastic drums Food grade intermediate bulk containers	1800 336 228 02 9728 8999

FACTERIA

The Golden Grapes

Staphylococcus aureus

By Martin Stone - HACCP Australia

amed for their appearance under the microscope and the typical yellow colonies they form on agar, S. aureus is a human pathogen that was first isolated in 1880 from surgical infections. Whilst well known as 'Golden Staph' as the bacteria responsible for a range of skin infections such as boils, pimples and more serious infections. A major concern in the medical field is the emergence of antibiotic resistant strains of the bacteria which have the capacity to kill patients recovering from surgery through infection. The organism is also responsible for food poisoning illness in a range of foods.

Between a third and half of the population are carriers of the bacteria (often in nasal passages) at any time so the potential for contamination from human sources is clearly high. The bacteria causes' food-borne illness through the production of a toxin and an infective dose is reached when less than one millionth of a gram of toxin

is consumed in the food. This level of toxin is achieved when about 100,000 cells are present per gram of food and can occur in a few hours of infected food being left at room temperature. A feature of the toxin is its heat stability. Even if the food is reheated and the bacteria are destroyed (they are killed easily with heat above 65 degrees Celsius), the toxin will remain viable and will cause illness.

S. aureus food poisoning is often associated with dairy, meats, poultry and egg and protein based salads. The bacteria are also salt tolerant and can grow in foods such as cured hams. Symptoms include vomiting, diarrhoea, nausea etc and rapidly onset (2-4 hours) and last for around 24 hours before the recovery phase of the illness is underway.

Control of the bacteria in food is managed by the basic food safety principles. Hand hygiene and the correct temperature control of foods are critical. Coughing and sneezing over food is also thought to be a primary source of introducing the bacteria into the foodstuff. Handling foods when infections such as boils or pus wounds are present is also a major risk scenario.

Staphylococcus aureus - the golden grape - a common source of rapid onset gastroenteritis, but one that can be easily controlled through appropriate food safety handling techniques. *

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BaxxAir Destroys Bacteria





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

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



TESTS INDICATE EFFECTIVE ELIMINATION OF THE FOLLOWING ESCHERICHIA COLI (E COLI)
STAPHYLOCOCCUS AUREUS
LISTERIA MONOCYTOGENES

SALMONELLA SACCHAROMYCES CEREVISIAE MRSA, C.DIFF(SPORE FORM) AND NOROVIRUS



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