

# HOT SOURCE

EXPERT INSIGHTS INTO SAFE, SUSTAINABLE AND HIGH-QUALITY FOOD

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**EUROPE PLANS LIMITS ON TRANS FATTY ACIDS**

**METAL DETECTION – UNDERSTAND THE POTENTIAL HAZARD**

**MANAGING GLOBAL SUPPLY CHAINS UNDER FSMA AT THE GFSI CONFERENCE**

**IMPORT REFUSALS AND LESSONS THAT CAN BE LEARNED**

**SETTING A NEW STANDARD FOR SUSTAINABLE RICE**

**SEAFOOD MARKET NEWS: DEMAND, TRENDS AND SUSTAINABILITY**

**DNA AND NEXT GENERATION SEQUENCING (NGS) FOR FOOD AUTHENTICITY, TRACEABILITY AND SAFETY**

**INTRODUCING SGS'S FOOD & AGRICULTURE LAB IN SOUTH KOREA**

**SGS**



## DEAR READER,

This issue of Hot Source considers the latest improvements to food analysis and highlights the proposed European Trans Fatty Acids controls. We also look at minimising the risk of metal inclusion within food products, and introduce our food testing lab in South Korea. There's also an update on the seafood market, an interview with an UTZ expert about the Sustainable Rice Platform, an article about import refusals and an update on our Breakfast Session at the GFSI Conference.

While DNA-based methodologies for the analysis of food are now quite common, most still rely upon polymerase chain reaction (PCR) amplification. Since this can limit the scope of the information obtained, the application of Next Generation Sequencing (NGS) techniques is improving the situation. SGS is now using in-house software for NGS analysis of meat, fish, seafood, plants and microbes – and almost any other food product containing DNA.

Acknowledged by many as a health risk, Trans Fatty Acids (TFS) may soon be subject to pan-European controls. Our report offers a definition of TFS and an overview of the latest market developments.

Given the dangers of metal fragments within food, suppliers throughout the value chain must minimize the inclusion risks. Discover more about metal detection, determining the level of hazard and identifying the critical control points.

The SGS food testing laboratory in South Korea continues to extend its services to the local market. We introduce its state-of-the-art food and agricultural testing facilities.

The Global Seafood Marketing Conference kicked off 2017, showing the industry's confidence in the future. We summarise the event's key points and consider social accountability.

Also, we talk to an expert from UTZ about the Sustainable Rice Platform (SRP), its promotion of the efficient use of resources, and climate change resilience in rice production.

If food products are delayed at customs, the PR damage can hit as hard as the financial loss. However, the risks can be minimised with expert help. Read on to find out more about learning from import refusals.

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### SGS AGRICULTURE AND FOOD TEAM

## CONTENTS

Europe Plans Limits on Trans Fatty Acids – <a href="#">Read Article</a>	Page 3
Metal Detection – Understand The Potential Hazard – <a href="#">Read Article</a>	Page 4
Managing Global Supply Chains Under FSMA at the GFSI Conference – <a href="#">Read Article</a>	Page 6
DNA and Next Generation Sequencing (NGS) for Food Authenticity, Traceability and Safety – <a href="#">Read Article</a>	Page 7
Import Refusals And Lessons That Can Be Learned – <a href="#">Read Article</a>	Page 8
Setting A New Standard For Sustainable Rice – <a href="#">Read Article</a>	Page 10
Seafood Market News: Demand, Trends and Sustainability – <a href="#">Read Article</a>	Page 12
Introducing SGS's Food & Agriculture Lab In South Korea – <a href="#">Read Article</a>	Page 13

### SGS WHITEPAPERS, WEBINARS, EVENTS AND SAFEGUARDS

Whitepaper: Understanding Safety, Quality And Supply Chain Best Practice In The Dairy Industry – <a href="#">Read Article</a>	Page 14
Information on Upcoming Food Webinars, Events and the Latest Food Related Safeguards – <a href="#">go to page</a>	Page 15



# EUROPE PLANS LIMITS ON TRANS FATTY ACIDS

With consumer groups and health authorities across the world calling for tighter controls on the use of trans fatty acids (TFA), also known as trans fats, the European Parliament has recently asked the EU Commission to set a Europe-wide limit within two years. With the introduction of a maximum limit, the EU will join a growing list of countries and organisations recommending a reduction in the levels of, or legislating against the use of, TFA in foods.

In 2003, the World Health Organisation (WHO) issued recommendations on a balanced diet that included the advice that TFA should be limited to less than 1% of overall energy intake. Denmark then became the first country in the world to introduce a statutory limit for TFA. Introduced in 2003, Denmark allows a maximum upper limit of two percent for TFA. Since then, Denmark has been joined by Austria in 2009, Hungary in 2013, and Latvia in 2015.

## EXCEPTIONS EXIST

Not all countries have legislated against TFA. The United Kingdom, for example, has seen calls from both the Food Standards Agency, in 2004, and the British Medical Journal, in 2006, demanding better labelling of TFA, and several companies have voluntarily removed or reduced TFA in their products.

## ACTION IN NORTH AMERICA

In the US, authorities have required manufacturers to state the levels of TFA on all food packaging for a number of years. In June 2015, the US Food and Drug Administration (FDA) concluded that partially hardened oils should be considered "generally not safe" and, from June 2018, their use in foodstuffs will be prohibited. In November 2016, Canada proposed a ban on partially hydrogenated oils and opened a consultation. The results of the consultation, which ended in January, are awaited.

## CONSUMPTION CARRIES RISK

Countries and authorities are responding to evidence that the consumption of TFA leads to an increase in the risk of cardiovascular disease. A report by the



National Academy of Sciences (NAS) in 2002, determined that there was no safe level for TFA consumption, since they are, "not essential and provide no known benefit to human health". They also concluded that TFA actively lower HDL cholesterol, so-called 'good' cholesterol, and therefore increase the risk of chronic heart disease.

## NATURALLY OCCURRING, TECHNOLOGICALLY CREATED

TFA are a form of unsaturated fat that can occur naturally or through technological processes in food fats. For example, the milk and body fat of ruminants, such as cows and sheep, contain TFA at a level of 2-5% of total fat. They are also high in refined, particularly hardened (partially hydrogenated), vegetable oils and fats. TFA are also used during heating or storage of oils, fats and fatty foods. Products that contain high levels of TFA include: cooking oils and fats, convenience foods, margarine, pre-packaged bakery products, microwave popcorn, deep-fried foods, and soups and sauces.

With some countries already demanding a more stringent approach to TFA, many companies will already have in place procedures that include laboratory-

based detection for TFA in foodstuffs. This has been particularly important for export and international declarations. However, with legislative coverage being variable, not all producers will have been subject to legal regulations and, with the EU introducing limits within two years, they should now make sure their products are compliant by switching manufacturing processes, changing formulas and/or replacing suppliers.

## TESTING AND ANALYSIS

SGS's global network of laboratories offers manufacturers and food retailers the full range of analysis tests for detecting TFA. SGS uses gas chromatography to provide saturated, mono, polyunsaturated, trans fatty acids and fatty acid profiles to help stakeholders get ready for the new EU regulations.

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# METAL DETECTION – UNDERSTAND THE POTENTIAL HAZARD

Ingesting metal fragments can cause injury to a consumer, injuries that could include dental damage, laceration of the mouth or throat, or laceration or perforation of the intestine.

The US Food and Drug Administration's (US FDA) Health Hazard Evaluation Board has supported regulatory action against products with metal fragments from 0.3 inch (7 mm) to 1 inch (25 mm) in length. The Federal Food, Drug, and Cosmetic Act (FFD&C Act) prohibits interstate commerce of adulterated foods (21 U.S.C. 331). Under the FFD&C Act, food containing foreign objects is considered adulterated (21 U.S.C 342). See the FDA's "Compliance Policy Guide," Sec. 555.425. In addition, foreign objects that are less than 0.3 inch (7 mm) long may cause trauma or serious injury to consumers in special risk groups, such as infants, surgery patients and the elderly.

Metal-to-metal contact (e.g. mechanical cutting or blending operations and can openers) and equipment with metal parts that can break loose (e.g. moving wire mesh belts, injection needles, screens and portion control equipment, and metal ties) are likely sources of metal that may enter food during processing.

## CONTROL OF METAL INCLUSION

Once introduced into a product, metal fragments may be removed by passing it through a screen, magnet, or flotation tank. The effectiveness of these measures depends on the nature of the product. For example, these measures are more likely to be effective in liquids, powders, and similar products in which the metal fragment will not become embedded.

Alternatively, metal fragments may be detected in finished food products by an electronic metal detector. The use of electronic metal detectors is complex, especially with regard to stainless steel, which is difficult to detect. The orientation of a metal object in food affects the ability of equipment to detect

it. For example, if a detector is not properly calibrated and is set to detect a sphere 0.08 inch (2 mm) in diameter, it may fail to detect a stainless steel wire that is smaller in diameter but up to 0.9 inch (24 mm) long, depending on the orientation of the wire as it travels through the detector. Processing factors, such as ambient humidity or product acidity, may affect the conductivity of the product and create an interference signal that has the potential to mask metal inclusion unless the detector is properly calibrated. These factors should be considered when calibrating and using this equipment.

Finally, the hazard of metal inclusion may also be controlled by periodically examining processing equipment for damage that can contribute metal fragments to the product. This measure will not necessarily prevent metal fragment contamination, but it will enable you to separate products that may have been exposed to metal fragments. However, visual inspections of equipment for damaged or missing parts may only be feasible with relatively simple equipment, such as band saws, small orbital blenders, and wire mesh belts. More complex equipment containing many parts, some of which may not be readily visible, may not be suitable for visual inspection and may require controls such as metal detection or separation.

## DETERMINE WHETHER THE POTENTIAL HAZARD IS SIGNIFICANT

The following guidance will assist you in determining whether metal inclusion is a significant hazard at a specific processing step:

1. Is it reasonably likely that metal fragments will be introduced at this processing step (e.g. do they come in with the raw material or will the process introduce them)?



For example, under ordinary circumstances, would it be reasonable to expect that metal fragments could enter the process as a result of worn, damaged, or broken equipment parts from the following sources (this list is not exhaustive):

- Mechanical crabmeat pickers
- Wire-mesh belts used to convey products
- Saw blades used to cut portions or steaks
- Wire from mechanical mixer blades
- Blades on mechanical chopping, filleting, or blending equipment
- Rings, washers, nuts, or bolts from breading, batter, sauce cooling, liquid dispensing, and portioning equipment, etc.

2. Can the hazard of metal inclusion that was introduced at an earlier step be eliminated or reduced to an acceptable level at this processing step?

Metal inclusion should also be considered a significant hazard at any processing step where a preventive



measure, is or can be used, to prevent or eliminate the hazard (or is adequate to reduce the likelihood of its occurrence to an acceptable level), if it is reasonably likely to occur. Preventive measures for metal inclusion can include:

- Periodically checking equipment for damaged or missing parts
- Passing the product through metal detection or separation equipment
- Control of metal inclusion

In most cases, you should assume that the product will be consumed in a way that would not eliminate any metal fragments that may be introduced during

the process. However, in some cases, if you have assurance that the product will be run through a metal detector for detection of metal fragments, or through screens or a magnet for separation of metal fragments by a subsequent processor, you would not need to identify metal inclusion as a significant hazard.

#### IDENTIFY CRITICAL CONTROL POINTS

The following guidance will also assist you in determining whether a processing step is a critical control point (CCP) for metal inclusion:

1. Will the product be run through a metal detector or a separation device, such as a screen, magnet, or flotation tank, on or after the last step where metal inclusion is identified as a significant hazard?
  - a) If it will be, you should identify final metal detection or separation as the CCP. Then processing steps prior to metal detection or separation would not require controls and would not need to be identified as CCPs for the hazard of metal fragments. You should recognise that by setting the CCP at or near the end of the process, rather than at the point of potential metal fragment entry into the process, you are likely to have more labour and materials invested in the product before the problem is detected or prevented.
  - b) If the product will not be run through such a device, you should have procedures to periodically check the processing equipment for damage or lost parts at each processing step where metal inclusion is identified as a significant hazard. In this case, you should identify those processing steps as CCPs.

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# MANAGING GLOBAL SUPPLY CHAINS UNDER FSMA AT THE GFSI CONFERENCE

On March 1, 2017, SGS hosted a panel of experts on Managing Global Supply Chains under FSMA – Challenges, Opportunities and Strategies, at the 2017 GFSI Conference in Houston.

The session was an opportunity to explore the impact of FSMA on global supply chain management practices and innovative solutions for compliance and transparency. Moderated by Hank Karayan, SGS FSMA Programme Director, this session drew on the expertise of four panellists:

- Donald Prater, FDA's Acting Assistant Commissioner for Food Safety Integration
- Michael Taylor, former FDA Deputy Commissioner for Foods and Veterinary Medicine
- Chris Morrison, CEO of Transparency-One
- Nicola Colombo, CEO of C-LABS

## WHY FSMA?

FSMA is considered the most sweeping reform of the US food safety system. It shifts the industry's focus from responding to contamination to preventing it. On the food safety side, there have been major shifts on multiple levels with FSMA – from revising Good Manufacturing Practices to Preventive Controls, integrating food fraud and, expanding the notion of food supply to include US and non-US facilities supplying ready-to-eat food and produce, as well as ingredients and raw material into the United States.

On the other hand, FSMA coincides with Industry 4.0 and the emerging innovative automation technologies. The current trend is therefore shaping a food industry with less human intervention, regulated by compliance policies.

## THE CHALLENGES

The journey to compliance starts with access to comprehensive information that is relevant to the product, and the markets the product is intended for. Companies supplying to and sourcing from multiple countries also face the additional challenge of accessing all relevant global data and mapping regulatory requirements across geographies.

The abundance and variety of data relevant to sourcing could become a hurdle for facilities implementing the supply chain management components of FSMA. The regulation requires hazard analysis and identification of supply chain preventive controls among others. In other words, understanding and analysing product-specific risks that can be mitigated through proper supply chain management measures.

## A NEW LOOK INTO SUPPLY CHAIN MANAGEMENT

The rise in supply-chain related recalls is pushing regulators to look for effective measures that transcend the traditional one-up, one-down model. In the spirit of the prevention of contamination called for by FSMA, it is implied that in order for a food safety system to be effective, all constituents of a supply chain should have proper programmes in place. As a result, companies have been quick in adopting the preventive rules model in their supply chain verification and audit programmes, thus making the supply chain requirements that are applicable to them, also applicable to their suppliers.



## COMPLIANCE THROUGH INNOVATIVE SOLUTIONS

Thanks to our diverse panel of experts, the audience was exposed to various aspects of regulation and innovation. The panellists could draw a clear correlation between compliance and innovation, while showcasing the latest technological solutions for supply chain transparency and smart compliance data management systems. Later, the panellists provided further insight into related topics by responding to questions from the audience at a Q&A session.

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# DNA AND NEXT GENERATION SEQUENCING (NGS) FOR FOOD AUTHENTICITY, TRACEABILITY AND SAFETY

Knowing exactly what is in complex food samples has long been a highly-pursued aim. Hence, the use of DNA-based methodologies has become a powerful tool for food analysis, the detection of potential adulteration, and as a deterrent to economically motivated adulteration.

However, most methods are based on polymerase chain reaction (PCR) amplification and usually target either one or a small number of ingredients. This requires knowledge about which organism to search for and can be limited to a restricted number of targets because of the narrow range of commercially available test kits. Therefore, the results obtained by direct PCR detection only produce presence/absence results for the targeted species. No additional information is obtained, such as whether any other species is present in the sample.

## NEXT GENERATION SEQUENCING

In recent years, DNA-based approaches have been greatly improved by the recent application of Next Generation Sequencing (NGS) techniques.

At the end of an NGS analysis, millions of individual sequences are obtained making it possible to identify species in complex foods containing multiple ingredients. This is because each ingredient will produce a single and unique DNA sequence. The sequences obtained are compared with databases (containing several thousands of species) resulting in a complete list of all the species present in the sample, including the scientific name of the species identified.

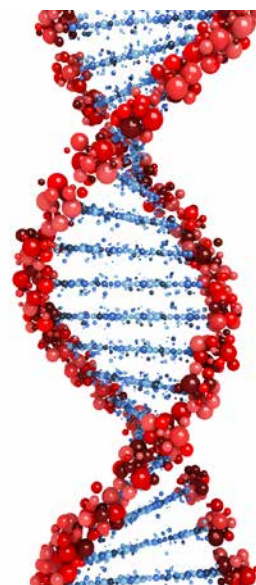
This technique is recognised as the most reliable method for species detection and identification. NGS therefore allows untargeted detection of thousands of organisms with no requirement for previous knowledge of the supply chain, or about the species to search for. This means that today the question is simply, which animal species are in this sample? Likewise, are there

any other plants in my dried oregano, or can I defend a claim that is made on the food label? As a result, NGS is becoming an increasingly useful and powerful way to check the robustness of controls for a large number of steps in a process, or to reduce the risk of undiscovered fraud when the number and variability of suppliers impacts the supply chain.

NGS is presently the only test method that ensures the correct identification of species in complex foods due to the untargeted nature of the method, and even exotic species can be identified. Therefore, the use of this method is increasing and it is routinely being applied in food authenticity analysis. SGS leads a working group that is involved in the aim of publishing an officially accepted test method.

## DEALING WITH DAMAGED DNA

One of the challenges in the analysis of highly processed food products using PCR was the fragmentation of DNA caused by many manufacturing processes, like the high temperatures and/or pressures used for sterilisation. These damage DNA and produce very short DNA fragments. Therefore, to avoid false negative results it is essential to use a NGS approach optimised to work with those short fragments, bearing in mind that the DNA sequences must still be informative enough to discriminate among closely related species. The DNA sequence analysis takes advantage of the uniqueness of DNA sequences for each organism. Each different species has its own DNA sequence that can be used as a unique identifier, and is commonly designated as a 'DNA barcode'.



SGS has developed a unique workflow combining a broad range of short DNA fragments with PCR amplification to guarantee the detection of thousands of species together with specific in-house software for NGS data analysis. By using this workflow, food products can be analysed for almost all types of organisms including meat, fish, seafood, plants and microbes. This workflow is so broad that virtually any kind of food product can be analysed as long as it still contains DNA.

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# IMPORT REFUSALS AND LESSONS THAT CAN BE LEARNED

Every day, in most countries of the world, food products are refused entry. Issues can range from paperwork issues, to food safety and adulteration issues. No country's manufacturers are immune to these mistakes, some of which are caused by language barriers and others by the complexity of the inbound government's systems.

## GLOBAL INITIATIVE

In an effort to improve the flow of goods around the world, the Codex Alimentarius was established. Even with the establishment of standards, procedures, additives, veterinary drug and pesticide maximum residue limits (MRLs), the fundamental problem of harmonisation has not been fully resolved. There are many country-specific regulations and some industry issues that continue to create ongoing problems. Many countries have also established new laws and regulations or revised existing ones. Unfortunately, this only adds to the layers of import complexity and serves to further increase refusals. The industry needs to learn from its mistakes and the mistakes of others.

## IMPORT REFUSAL REPORTS

Some countries publish details of all refusals and issues in databases. For example, the US food and Drug Administration (US FDA) publishes a database with their import refusal report<sup>1</sup>. Starting from May 2017, some importers will be advised to look at this information and use it to assess the risk of a product and company being imported into the US from a given location, as required by the Food Safety Modernisation Act (FSMA). The data analysis is done by the FDA's computer system, though there is human input. All this data is then used by the system to make determinations.

Unfortunately, because of the complexity of the global market this database does not necessarily list the origin country of a food product. It lists the country of the US FDA registered company which shipped the



item. One example is that since 2014 most of the refusals into the US from the United Arab Emirates (UAE) have been because rice (basmati and plain white) had pesticide residues not in compliance with US MRLs. The UAE is not considered the world's leading producer of rice. Many of the UAE companies listed are trading companies, so we can safely conclude that this rice is coming from other locations. As the US FDA can assess that those goods are not coming directly to the US they may be more likely to hold and test them for compliance, or hold and have the responsible party test for compliance.

## INTERPRETING THE DATA

Sometimes the information provided to the database is unusual. Looking at US FDA refusals for *Vibrio* provides information that since the beginning of 2014 only one item, shelled coconut, has been refused because of *Vibrio* contamination. This issue was first noted for product arriving from or through India, but the computer system/

personnel has flagged the issue and there have been subsequent refusals of goods from the Philippines and Vietnam while the US FDA investigates this contaminant. This process does not mean that the US FDA is only testing, or having the responsible party test, other products for *Vibrio*; it establishes that those importing shelled coconut into the US should test it for *Vibrio* before shipping.

Of course, some of the information provided makes it obvious which categories and areas of the world are involved. For example, for the contaminant nitrofurans, the US FDA refusal information indicates that shrimp, prawns and crabs are the primary products refused because of contamination, or suspected contamination, with nitrofurans. Occasionally, some farm raised fish or frog legs are also found to be contaminated. Most nitrofurans contamination is found in Asia, a region that hosts most of the top ten suppliers of farm raised shrimp and prawns to the US.

<sup>1</sup><https://www.accessdata.fda.gov/scripts/importrefusals>



In Malaysia, the incidence of shrimp and prawn contamination with nitrofurans and chloramphenicol became so common that on 18 April 2016 the US FDA issued Import Alert 16-136<sup>2</sup> placing all shrimp and prawns on automatic detention. The US FDA tested 138 shrimp shipments, 32% of which contained product that was contaminated with one of these veterinary drugs. Unfortunately, this is not unusual. Often, when a problem is identified for a specific category of product from a specific location, it also affects the entire region.

### DOMESTIC ISSUES INCLUDED TOO

In the database, users can also find the country code for the United States. Product data is not confined to imported products. It also includes data on domestic products, and products that may have been imported but are now domestic. Many of these product problems are related to labelling issues and filth.

### AUSTRALIAN INTELLIGENCE

On 11 January, 2017, Australia published a note that food product labelling amounts to 75% of refusals.<sup>3</sup> The issues identified relate to nutrition information,



importer details, ingredients and country of origin. Under the Imported Food Inspection Scheme (IFIS), during the first half of 2016 the government performed 17,464 labelling assessments and found 366 noncompliance issues. Date marking is another chronic issue with imported items. These issues can be simply resolved. Labelling reviews can be carried out by a third party who understands the company's labels and the rules of the destination market, ensuring compliance before the label is printed and attached to the product, thereby preventing rejection by the receiving country.

In common with many countries, Australia posts these import notices<sup>4</sup> in an effort to try and resolve issues before produce is shipped, instead of addressing it later, as well as to reduce manufacturers' costs associated with failed imports.

Of course, the US and Australia are not the only countries doing this. The European Union (EU) also runs a scheme. Nigerian snacks and foodstuffs have been repeatedly rejected by the EU<sup>5</sup> because of contamination. The reason appears to be that the countries and companies involved do not have a clear knowledge or understanding of the EU requirements, nor does the government have the resources or structure necessary to prevent contaminated products from being shipped. This issue is not unusual. As countries and companies expand into the global market from their domestic market they need additional support and expertise to ensure compliance and easy access to new markets.

### PROFESSIONAL SUPPORT

While support sometimes comes from governments, it can also come from the private sector. Many companies specialise in helping customers to ship items from one country to another. For some, this can be as simple as

completing the correct paperwork, but international trade often requires testing and verification, as well as compliance with a specific programme. For food, the best way to determine testing parameters is to start with a global trade standard, such as the Codex Alimentarius, and then add any location requirements that exceed or differ from this standard. Compliance can usually be verified by an audit. Many countries programmes require HACCP compliance for a food facility. Additional requirements such as preventive control, as noted in the FSMA and in the Safe Food for Canadians Act, require more intensive procedures and monitoring of systems in food production and handling facilities. Raw and finished goods material traceability may also be required.

Before a company can ship products from the country of origin to another, it must obtain knowledge of the requirements needed. Often, because of the complexity of international import systems, a company will benefit from working with a third party experienced in the necessary labelling, testing, audit verification, paperwork and general requirements necessary to achieve their goal.

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<sup>2</sup>[http://www.accessdata.fda.gov/cms\\_ia/importalert\\_1153.html](http://www.accessdata.fda.gov/cms_ia/importalert_1153.html)

<sup>3</sup><http://www.agriculture.gov.au/import/goods/food/notices/ifn-01-17>

<sup>4</sup><http://www.agriculture.gov.au/import/goods/food/notices>

<sup>5</sup>[http://www.bakeryandsnacks.com/Regulation-Safety/Contaminated-Nigerian-foodstuffs-repeatedly-rejected-by-EU?utm\\_source=newsletter\\_daily&utm\\_medium=email&utm\\_campaign=17-Jan-2017&c=ZjWGAZuD8pkSkGcyxOTSwJrRwJmPG0v&p2](http://www.bakeryandsnacks.com/Regulation-Safety/Contaminated-Nigerian-foodstuffs-repeatedly-rejected-by-EU?utm_source=newsletter_daily&utm_medium=email&utm_campaign=17-Jan-2017&c=ZjWGAZuD8pkSkGcyxOTSwJrRwJmPG0v&p2)

# SETTING A NEW STANDARD FOR SUSTAINABLE RICE

Complex and fragmented, the rice industry produces on average a staggering 480 million metric tonnes (MMT). More than 2 million smallholders work on 160 million hectares of land, but production yields are stalling and environmental concerns are growing.

## RICE, A MAJOR FOOD STAPLE

Rice is the main staple for 3.5 billion people, delivering 20% of their daily calorie intake. Consumption continues to grow in Asia, and though there are signs of decline in some higher income countries, it remains the fastest growing food staple in Africa and Latin America.

## THE SUSTAINABLE RICE PLATFORM (SRP)

In response to growing concerns, the Sustainable Rice Platform (SRP), a multi-stakeholder alliance, was established in 2011 to promote efficient use of resources, improve climate change resilience in rice production, contribute to food security and improve smallholder incomes.

From its earliest days, and the publication of its Guidelines for Sustainable Rice Production in 2013, the SRP has pursued voluntary market transformation initiatives by developing and implementing guidelines, performance indicators and more recently the Standard on Sustainable Rice Cultivation v1.0 in 2015.

Hot Source spoke to Geert Eenhoorn, Project Manager Rice, for UTZ to learn more.

## HOW DID UTZ BECOME INVOLVED?

UTZ joined the SRP early in the process of developing sustainability guidance and standards for the rice business. The UTZ name is perhaps best known for its voluntary standards for tea, coffee and cocoa, but sustainability goes beyond these cash crops and is just as important for staples such as rice – if not more so.



## WHY FOCUS ON RICE?

The production of rice involves lots of smallholder farms and lots of environmental impacts. At UTZ, we felt that this was an initiative where we can play an important role.

With production currently standing at 480 MMT annually, compared to coffee production of 9 MMT or palm oil at 65 MMT, it is obvious that the scope for creating positive impact on the

market, farmers, the environment and consumers is far greater. Much of the rice produced is consumed in its country of origin, with just 1.5% consumed in OECD countries (less than one third of which they produce themselves).

For UTZ and the SRP it's not merely about adding a certification mark to the end-product, the Standard on Sustainable Rice Cultivation is about making a difference to farming, farmers and the environment around the globe.

### HOW DID THE PROCESS TO DEVELOP THE STANDARD START?

Development of any standard involves extensive stakeholder consultation, and alignment, to ensure all information, the background of all participants, their needs and interests, is reflected in the standard itself.

Last year we also went into the field. We were keen to test the standard and help farmers in pilot schemes to complete the assurance process. Plus, we needed to find out, in field conditions, how third party auditors assess against the new standard. On the go we trained the first three certification bodies (CBs) on the SRP's behalf, including SGS.

### WHAT DID THE UTZ ASSURANCE PILOTS INVOLVE AND WHERE DID THEY TAKE PLACE?

Working with more than 300 farmers across India, Pakistan and Thailand there were two elements to each pilot. Working in collaborative groups, we trained farmers and farmer groups on how to data collection and record keeping, focusing on how to engage them and identify additional training needs. This is the so-called Internal Management System. The second element related to training auditors, who we also accompanied on their first field visit to see how they interpreted the Standard and assessed the farmer groups. It is important to note that these were learning exercises, and the Standard will not be a static document, we are still developing tools, version 1.0 is early days.

Other SRP members also piloted the standard and performance indicators, without the assurance element. So already hundreds more farmers are working with the SRP in countries including Cambodia, Indonesia, Vietnam, and Brazil.

### HOW DOES THE STANDARD MEASURE SUCCESS?

Addressing the challenges faced by the full range of businesses, the SRP has developed a set of 12 performance indicators that can be scaled to suit. In a departure from the traditional pass/fail standard, the inclusion of these indicators help to drive a culture of continuous improvement. The performance indicators include profitability, productivity - labour, yield, and water, food safety, nutrient use efficiency: N, nutrient use efficiency: P, pesticide use efficiency, greenhouse gas emissions, health and safety, child labour and women's empowerment.

From smallholders to larger rice producers, across the globe there is increasing awareness of food quality and safety issues, and a desire to reduce the impact of their activities on the environment.

### WHAT IS THE BENEFIT OF COMPLETING THE SRP ASSURANCE PROCESS?

We're striving for a multi-layer assurance system, where we not only provide support to smallholders and rice producers, but also use assurance for the benefit of the wider industry and local authorities. For example, implementing the standard and the first level assurance process enables policymakers and local authorities to prove that their farmers are moving towards more sustainable ways of working. This then allows them to claim climate funds or report on the United Nations Sustainable Development Goals. This means sustainable farming can be promoted at policy level, which makes this a very exciting development!

### WHAT IS UTZ AND THE SRP'S TARGET FOR THE STANDARD?

It is SRPs target to encourage 1 million farmers to adopt climate-smart sustainable best practices by 2021. It seems very ambitious, but by linking the 3-level assurance system, to the many initiatives of the SRP members this should be achievable.

### SGS RICE SERVICES

With testing laboratories across the world's rice producing countries, SGS delivers the widest range of services to ensure the quality and safety of rice crops. Rice authentication, conducted using DNA analysis by reverse transcription polymerase chain reaction (RT PCR), offers scalable throughput and rapid results to combat product substitution. From contamination, to GMO determination and pesticide residue analysis, we have the capabilities to deliver accurate analyses in the quickest turnaround times.

Our stock monitoring and fumigation services will minimise the risk of damage and loss, also ensuring that issues can be addressed promptly.

Across the entire value chain our audit and certification services are a benchmark for assurance, giving you the confidence you need to access new markets and establish new business.

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For the complete range of SGS services and support, please visit [www.foodsafety.sgs.com](http://www.foodsafety.sgs.com) or send an email to [food@sgs.com](mailto:food@sgs.com).

 [SGS Agriculture and Food](#)

#### Reference:

<https://www.worldriceproduction.com/>

<http://ricepedia.org/rice-as-food/the-global-staple-rice-consumers>



# SEAFOOD MARKET NEWS: DEMAND, TRENDS AND SUSTAINABILITY

From the beginning of the year, the seafood industry has received notable market attention.

From the National Fisheries Institute's Global Seafood Marketing Conference (GSMC), forward into the Seafood Exposition North America (March, Boston) and the Brussels Seafood Show (April), the industry remains confident in its approach to proactively build upon its reputation as a sustainable protein source, feeding the world with delicious and savoury choices.

## HEALTHY OPTION

Datassentials reports that 73% of Americans consider seafood as healthy. Healthy has evolved from a concept born on weight management, grown to mean local, natural and sustainable, and now functional to include protein, anti-oxidant and super food qualities.<sup>1</sup> Along with these developing trends, the US FDA recently held a public meeting on the term "Healthy" in the labelling of human food.

Demand for seafood is forecast to increase in "opposing" consumer markets: fine dining and quick service restaurants. Guiding this expansion is the excitement created by seafood chefs and entrepreneurs, and there is no exclusivity to either skill, or business acumen.

Closing out the GSMC, the seafood industry leadership highlighted some key take-aways:

- Production of selected species relies upon favourable El Nino conditions
- Atlantic salmon supply difficulties continue to hinge on algae blooms, and disease management
- Enhanced US FDA inspections may further reduce supply: both fishing and cold chain preservation practices must improve
- Currency swings, trade disputes, or political dissension over imports may further reduce supply
- The US and China emerge as global, competing importers

whether for domestic consumption or re-export

Notwithstanding the dynamics from the GSMC, the level of collaboration within the seafood industry to resolve sustainability issues has seen unprecedented levels of activity. Two examples are Verite's collaboration with Nestlé for its supply chain reporting, and FishWise's comprehensive white paper entitled Social Accountability in the Global Seafood Industry.

Drawn from the latter are "Steps to Achieving Social Responsibility" which should be seriously considered as a blueprint for industry, government, NGO and consumer collaboration:

1. Map It – define and create supply chain transparency
2. Analyse – conduct a risk assessment and focus on the high risk areas
3. Commit – ensure your supply chain commits to social responsibility goals
4. Communicate to Vendors – give feedback to vendors, and ensure improvements are made
5. Track – track progress against commitments
6. Audit and Certify – support unannounced audits, seek certification or best practice guidance
7. Communicate with Customers – provide clear information on sourcing and sustainability
8. Engage – participate in multi-stakeholder dialogues, combat Illegal, Unreported and Unregulated (IUU) fishing and labour abuses
9. Support Improvements – consider supporting Fishery and Aquaculture Improvement Projects
10. Share – promote transparency and positive social stories<sup>2</sup>

Changing courses and leading up to the Seafood Exposition North America, the exposition stays on trend with



the aforementioned emerging trends and issues. A sampling of the panel discussions may be divided into tracts:

**Regulatory:** Import Regulations; Species Authenticity; Brexit Challenges; FDA-Customs Seafood/Facility Inspections; Seafood Trade & Regulations; Seafood Standards Updates

**Sustainability:** Corporate Social Responsibility in the Protein Sector; Sustainable Seafood Consumption; The Face of Sustainability; What Makes Fisheries Improvement Projects Work?

**Traceability:** Translating Traceability for Everyone; How Traceability Works in the Real World; Harnessing Expanded Data to Verify, Trace and Promote Seafood; Reducing Risk of IUU

**Technology:** The Feed Revolution, Driving Eco-Efficiency; OUSEI Advanced Aquaculture Technology

**Consumer:** Delicious and Profitable: Chefs discuss Seafood; Consumer Preferences: Fresh vs. Frozen, Influencer Marketing, Talking to Millennials about Aquaculture

SGS moderated the Corporate Social Responsibility in the Protein Sector session with panellists from retail, restaurant, manufacturer, standard, and certification leaders. We encourage you to visit these industry events and contribute to the ongoing dialogues in seafood safety, quality and sustainability.

For the complete range of SGS services and support visit [www.sgs.com/seafood](http://www.sgs.com/seafood) or send an email to [food@sgs.com](mailto:food@sgs.com).

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<sup>1</sup>Datassentials, *Evolving seafood to meet the preferences of our changing consumer*, Colleen McClellan, *Global Seafood Marketing Conference*.

<sup>2</sup>*Social Responsibility in the Global Seafood Sector*, FishWise, December 2016, [www.fishwise.org](http://www.fishwise.org)

# INTRODUCING SGS'S FOOD & AGRICULTURE LAB IN SOUTH KOREA

SGS's new, state-of-the-art, laboratory in South Korea sets a new benchmark for food testing and agricultural services in Korea, and continues the growth SGS has already achieved in the local market.

Established: 2016  
 Employees: 77  
 Laboratories: 1  
 Laboratory space: 2,340 m<sup>2</sup>  
 Location: Uiwang City, near Seoul

## SERVICES

The laboratory offers the full-range of food and agricultural testing facilities:

- Food chemical testing, including tests for: nutrition, vitamins, preservatives and sugars
- Food contaminant testing for: pesticide residues, heavy metals, animal drug residues, melamine, histamine, mycotoxins and PAHs
- Microbiological and DNA testing: microbiological limit test including microorganisms identification, allergens, GMOs, norovirus and antibiotics effectiveness

In addition to testing, the facility also offers a comprehensive suite of services, including:

- Supplier and hygiene audits
- Training
- Standard operating procedures (SOP) development
- Food label reviews
- Inspections for agricultural, food and fishery products



*Reading data through gel image analyzer after performing gel electrophoresis in order to check DNA of E.coli.*

## ACCREDITATIONS

Accredited to the ISO 17025 standard, this laboratory has also been accredited as an official food laboratory by the South Korean Ministry of Food and Drug Safety, and the National Agricultural Products Quality Management Service has authorised it as an agricultural product testing laboratory. Furthermore, the National Institute of Environmental Research has designated the facility a norovirus testing laboratory.

## PRODUCTS COVERED

This new facility is staffed and equipped to deliver tests across a broad range of food categories, including:

- Beverages
- Bottled water
- Confectionery and chocolate
- Dairy
- Fruit and vegetables
- Grains and cereals



*Spreading broth, which are incubated for 24 hrs, onto petri-dishes*

- Herbs and spices
- Meat, poultry and seafood
- Oils and fats
- Pastry
- Processed, canned and frozen foods
- Tea and coffee

## EXPERIENCE AND EXPERTISE

With extensive experience and expertise in the agriculture and food sector, the team at Uiwang City are highly trained to deliver a full range of accurate and effective food testing and analysis services, with fast turnaround times and competitive pricing.

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# SGS WHITE PAPER: UNDERSTANDING SAFETY, QUALITY AND SUPPLY CHAIN BEST PRACTICE IN THE DAIRY INDUSTRY

## HOW DO YOU DELIVER TRUSTED DAIRY PRODUCTS IN A GLOBAL MARKETPLACE?

Reports of *Listeria* outbreaks in US ice cream, detergents linked to Indian milk, and *Botulism* scares in Chinese milk powder due to New Zealand imports – all media headlines that make consumers question the safety of dairy products. In order to retain, or in some cases regain, consumer trust in the dairy industry you need to stay informed on the complex mix of issues and risks. To save you time and research, SGS' new white paper investigates the wide range of issues currently facing the dairy industry, and provides in-depth commentary to help you better understand the most important topics requiring monitoring and testing.

Topics covered in the SGS white paper: Understanding Safety, Quality and Supply Chain Best Practice in the Dairy Industry include:

- **State of the Global Dairy Industry:** Is the dairy industry experiencing a 'market imbalance' today? Where are tomorrow's future import/export markets? Find out in this chapter.
- **International Standards and Regulations:** Could a Codex standard for 'whey permeate' mean new growth for an underutilised product? What are the Codex Alimentarius Commission (Codex) and International Dairy Federation (IDF) standards and regulations for the dairy industry? Examine the main guidance steering dairy worldwide in this chapter.
- **Safety and Quality Issues in the Dairy Industry:** How do farmers really use antibiotics? Does dairy really contain what it claims on the packet? Has the rise of raw milk lead to an increase of pathogenic bacterial contaminants? Is packaging a source of mineral oil migration? Learn the answers to these questions and more in this chapter.



- **Consumer Health and Wellbeing:** Milk – the number one self-reported food allergen? When a product claims 'lactose-free' what does it mean? Is 'organic' driving dairy fraud? In this chapter discover how to reassure and keep consumers safe.
- **Best Practices in the Dairy Supply Chain:** Does your organisation operate without a supply chain management tool? How can a 360-degree quality, safety and compliance programme become reality? What are the 'top resilience' improvement factors? Get to grips with the fundamentals of supply chain security in this chapter.
- **Global Dairy Consumption, Import and Export:** Biggest exporters?

Largest importers? What are the product categories set for growth? Get all the facts and figures of the global dairy industry in this chapter.

Download your free copy [here](#)

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## SGS WEBINARS

For a complete list of SGS seminars, courses and webinars, please check our [events calendar](#).

WEBINAR	LANGUAGE	WEBINAR STATUS & LINK
FSMA Foreign Supplier Verification Program Rule Requirements	EN	<a href="#">On-demand</a>
Exploring Key Changes in Issue 3 of BRC Storage & Distribution	EN	<a href="#">On-demand</a>
What's New in Version 4 of FSSC 22000?	EN	<a href="#">On-demand</a>
FSMA Requirements for Animal Feed and Pet Food Companies - Tips for Successful Implementation	EN	<a href="#">On-demand</a>
Gluten-Free Certification and Gluten Risk Management	EN	<a href="#">On-demand</a>
Food Defense: Update on Current Guidelines and Future Trends	EN	<a href="#">On-demand</a>
Supply Chain Risks: Why Transparency Matters	EN	<a href="#">On-demand</a>
Integrating FSMA with Existing Food Safety Systems	EN	<a href="#">On-demand</a>
BRC Packaging	EN	<a href="#">On-demand</a>
BRC Issue 7	EN	<a href="#">On-demand</a>
BRC Agents and Brokers	EN	<a href="#">On-demand</a>
Halal Certification	EN	<a href="#">On-demand</a>

## UPCOMING SGS FOOD EVENTS

For more events, please check the [online events calendar](#).

EVENT	COUNTRY	LOCATION	DATES	EVENT TYPE	STAND #
<a href="#">American Spice Trade Association Annual Meeting 2017</a>	USA	Austin, TX	April 23-26	Conference	22
<a href="#">Food Safety Summit 2017</a>	USA	Rosemont, IL	May 8-11	Conference	232
<a href="#">European Food Sure: 7th Annual European Food Safety &amp; Quality Summit</a>	Netherlands	Amsterdam	May 22-24	Conference	TBC
<a href="#">Food Safety Supply Chain Conference</a>	USA	Rockville, MD	June 5-6	Conference	TBC
<a href="#">IFT 2017</a>	USA	Las Vegas, NV	June 25-28	Tradeshow	2314
<a href="#">IAFP Annual Meeting 2017</a>	USA	Boston, MA	July 9-12	Tradeshow	640

## SAFEGUARDS

SafeGuards, are SGS technical bulletins concentrating on new product standards, regulations and test methods.

Subscribe to SafeGuards: [www.sgs.com/ConsumerSubscribe](http://www.sgs.com/ConsumerSubscribe)

Browse the SafeGuards Library: [www.sgs.com/safeguards](http://www.sgs.com/safeguards)

### THE LATEST SAFEGUARDS

- CFIA Publishes the Proposed Safe Food for Canadians Regulations – [view](#)
- Canada Establishes New MRLs for Sulfuryl Fluoride on Crops – [view](#)
- US FDA Issues Two Draft Guidance Documents for the New Nutrition Facts Panel – [view](#)
- NOAA Final Rule Establishing the Seafood Import Monitoring Program Becomes Effective – [view](#)
- Taiwan Amends 14 Pesticide MRLs in Food – [view](#)
- FSSAI Issues Rules for Functional Foods and Health Supplements – [view](#)

### FOR ENQUIRIES

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WHEN YOU NEED TO BE SURE

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