

# HOT SOURCE

EXPERT INSIGHTS INTO SAFE, SUSTAINABLE AND HIGH-QUALITY FOOD

ISSUE 13 • DECEMBER • 2016



**FOOD CONTAMINATION – MITIGATE THE RISKS**

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**SGS'S FOOD TESTING CAPABILITIES IN COLOMBIA**

**SGS**



## DEAR READER,

As 2016 draws to a close the food industry is as busy and diverse as ever. In this issue of Hot Source our experts explore new legislation, sugar and the global obesity epidemic, food contamination, and managing risks with gluten-free foods.

Excess sugar and sodium (salt) in processed foods has been an ongoing issue for consumers, regulators and the food industry for some time. Following the World Health Organisation's announcement that increasing the price of sugary drinks will reduce consumption, we look at efforts by numerous countries to reduce obesity through sugar taxes and warnings.

Just as harmful, sodium is creating health issues as consumption soars. The US FDA has published draft guidance on tackling the issue. We examine this alongside initiatives from the UK and Brazil.

FSMA implementation continues apace, and in this issue we look at the intentional adulteration rule, aiming to protect the US food supply against acts intended to cause wide-scale harm to public health.

As gluten-free products increase in popularity more food manufacturers and processors are delivering products labelled 'gluten-free' – but how can the risks associated with mislabelling be managed? SGS food safety and quality expert Evangelia Komitopoulou explores the question in more detail.

Food contamination regularly makes the headlines; we explore the range of contaminants and the testing available to help mitigate risks to consumers.

Also, in the latest in our series of lab focus articles, we profile SGS's food testing laboratory in Bogota, Colombia.

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### SGS AGRICULTURE AND FOOD TEAM

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# FOOD CONTAMINATION – MITIGATE THE RISKS

In 2015, some 3,049 original notifications were communicated through RASFF, triggered by food poisoning outbreaks, adverse reactions to food supplements and allergic reactions due to the presence of unlabelled allergens<sup>1</sup>.

While the number of notifications to the Rapid Alert System for Food and Feed (RASFF) remains fairly stable, increasing concern about the hazards of food contaminants, and the risks they pose means food manufacturers, governments and non-governmental agencies, are implementing policies and processes to monitor and reduce contaminants. At the same time, RASFF notifications resulting from food adulteration and/or fraud events have doubled since 2014.

## KEY FOOD CONTAMINANTS

Potential food contaminants cover a wide range of substances:

- Bacterial and viral pathogens
- Dioxins
- Food allergens
- Genetically modified organisms (GMOs)
- Heavy metals
- Hormones
- Melamine
- Mycotoxins
- Pesticide residues
- Polychlorinated biphenyls (PCBs)
- Radiation contamination
- Veterinary drug residues

Depending on their toxicity and the level of contamination, the impact of contaminants varies. From skin allergies, to more serious illnesses (including cancers and neurological impairments) and even death, their effects can vary dramatically.

Contaminant testing throughout the value chain is the key to ensuring that food and feed products are fit for consumption. In concentrated levels, melamine, antibiotics and hormones can be harmful to animals and humans. Contaminant testing will determine if these impurities, among others, are present and allow for the removal of products from the production and distribution chain.

## PERMITTED MAXIMUM LEVELS

To protect consumers, food safety legislation in many countries proscribes the maximum levels for contaminants permitted in food products. Disappointingly, these are rarely harmonised across national borders. This inconsistency places responsibility for compliance firmly with the food supply chain. A comprehensive testing programme can verify that products meet maximum levels and the safety standards they represent.

## GLOBAL REGULATIONS

In the European Union (EU): The food business operator carries primary responsibility for food safety. The primary European Commission (EC) legislation on general food safety is the General Food Law Regulation (EC) 178/2002<sup>2</sup>, complimented by more specific directives and regulations such as Directive 2001/18/EC and regulations 1829/2003 and 1830/2003 concerning non-GMO/GMO products.

In the USA: Rules regarding maximum levels vary from state to state. The Food Safety Modernisation Act (FSMA) has now been signed into law, but at the local level, state regulators can still apply additional regulations and laws.

In China: With enhanced provision for monitoring and supervision, improved safety standards, recalls for substandard products and dealing with compliance failures, China passed its Food Safety Law (FSL) in 2009.

## MONITORING PROGRAMMES

Whether mycotoxins or microbiological values, heavy metals or pesticides – independent sampling and testing provide an objective and comprehensive overview of what food products contain. Monitoring programmes are a highly effective way to identify any contamination issues; delivering credible data on both quality and contaminants.

## THIRD PARTY TESTING

At SGS, we have established a worldwide network of laboratories, where we meet best testing practices for a range of contaminants. Our skilled technicians test across a wide variety of products, employing food contaminant testing methods such as:

- Next Generation Sequencing (NGS)
- Liquid Chromatography – Mass Spectrometer Coupled (LC/MS-MS)
- Gas Chromatography – Mass Spectrometer Coupled (GC/MS-MS)
- Enzyme-linked Immunosorbant Assay (ELISA)
- Polymer Chain Reaction (PCR)
- Inductively Coupled Plasma (ICP)
- Inductively Coupled Plasma – Mass Spectrometer Coupled (ICP-MS)
- Atomic Absorption Spectrometer (AAS)
- High Performance Liquid Chromatography (HPLC)
- High Resolution Mass Spectrometry
- High Performance Liquid Chromatography with Post Column Florescence Derivatisation (HPLC-FLD)
- High Performance Liquid Chromatography with Ultraviolet Spectrophotometer (HPLC-UV)

Our contaminants testing laboratories are ISO 17025 accredited and operate under strict guidelines.

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<sup>1</sup>[http://ec.europa.eu/food/safety/rasff\\_en](http://ec.europa.eu/food/safety/rasff_en)

<sup>2</sup><http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ.L:2002:031:0001:0024:EN:PDF>

# GLUTEN-FREE PRODUCTS: MANAGING RISK FOR MANUFACTURERS AND CONSUMERS

Gluten is a protein composite mainly found in foods processed from wheat, rye and barley. It's found in products as varied as pasta and ice cream, bread and beer, soups and cereals.

People who are gluten-intolerant and/or have coeliac disease (CD) suffer intestinal pain and associated complications if they eat food that is not gluten-free. While the symptoms can vary amongst individuals making the disease hard to diagnose, food manufacturers and processors that label their products "gluten-free" have a responsibility to ensure that they use this claim in a truthful manner so that they do not mislead consumers

## DEFINITIONS AND REGULATORY FRAMEWORKS

Variations in the definition of "gluten-free" between countries include the type of grain foods that should be permitted in a gluten-free diet, as well as how much gluten should be allowed in a "gluten-free" labelled product.

The US Food and Drug Administration (FDA) set a gluten limit of less than 20 parts per million (ppm) for foods carrying a "gluten-free," "no gluten," "free of gluten," or "without gluten" label.

In Canada, gluten-free foods are those prepared under good manufacturing practices (GMP) with levels of gluten not exceeding 20 ppm as a result of cross-contamination. Similarly, the revised (2008) Codex Alimentarius standard states that gluten levels in "gluten-free" foods should not exceed 20 ppm. Codex also defines "very low gluten" foods as those containing gluten levels above 20 ppm and up to 100 ppm (Codex STAN 118-1979; Revised 2008).

In contrast to the Canadian and Codex definitions, the US FDA rule allows for the use of oats in a gluten-free diet. However, the use of oats in products that are targeting people with CD should ensure the absence of cross-contamination.



## THE MANAGEMENT OF RISK

Allergen management, including the controls associated with "gluten-free" claims, should be integral to manufacturers' food safety management systems rather than a completely new system. What's more, it must apply to all of the different operations taking place along the supply chain, from the sourcing of raw materials through to reformulation, manufacturing, processing and packaging.

The accurate declaration of allergens, including gluten, is the key to risk management. It is achieved through the correct labelling of the allergenic ingredients intentionally added, as part of the product recipe. Any ingredients that may be unintentionally present, at levels constituting a risk to allergic consumers, as a result of cross-contamination must also be listed. In Europe, Regulation EU No. 828/2014 aligns EU legislation with the Codex standard and clearly defines gluten-free labelling requirements.

## WHAT'S A SAFE GLUTEN-FREE THRESHOLD?

The identification of a single gluten-safe threshold for the population suffering from CD is rather complicated, as a result of differences in gluten sensitivity amongst individuals. It seems that a combination of gender, physical activity, weight, age and other factors all play a part, although the latest clinical research (Husby et al., 2014) does show that gluten levels of 10 mg are safe for individuals suffering from CD.

## EFFECTIVE ALLERGEN-FREE RISK MANAGEMENT

With regards to allergen labelling and risk management, a useful reference tool is the FoodDrinkEurope (FDE) Allergen Management Guidance document (published in January 2013). This document offers general allergen risk management advice while also covering specific gluten-free regulations and labelling guidance.

Manufacturers should have a written allergen management plan that clearly defines their policy and its aims, plus the measures needed to deliver it. The plan must be facility-specific, regularly reviewed, and maintained to ensure continuous compliance. The plan must include all of the facilities and people involved at every stage of the product life cycle. This entails all staff (including temporary workers and contractors) committing to attending the appropriate training and to putting its lessons into action.

Allergen (including gluten) risk management should be integrated within an overall food safety management approach that's fully supported by GMP and Hazard Analysis and Critical Control Point (HACCP) programmes.

This combination can help manufacturers to develop an allergen process flow (or allergen "map") that identifies the allergenic ingredients and foods within a facility, including the specific points where they are introduced into the process. Such an analysis can then lead to minimising the risk of cross-contamination during production through the application of several measures. These might include segregation, traffic control (of raw materials, employees and packaging), and the control of re-work and work in progress. Other measures could involve the use of dedicated equipment and processing lines (where possible) and/or the intelligent scheduling of processing runs. Such measures should also be backed up by a validated allergen cleaning programme.

### HOW SGS CAN HELP

A leading provider of certification, verification, inspection and testing services to the agriculture and food industries, SGS has the expertise to help manufacturers adopt effective gluten-free risk management policies.

With a global network of laboratories and experts, SGS can help food manufacturers worldwide with self-assessment, gap analysis, certification, testing and training across several schemes. In fact, SGS is the only certification body offering a choice:

### CROSSED GRAIN SYMBOL GLUTEN-FREE PRODUCT CERTIFICATION

This involves a stand-alone audit against the Association of European Coeliac Societies (AOECS) Standard for Gluten-Free Foods. The Association's Crossed Grain symbol signifies that all ingredients used in a product have 20 mg/kg (ppm) or less of gluten.

Manufacturing facilities producing AOECS-certified products must undertake an audit and finished-product testing annually, using accredited laboratories.

### GLUTEN-FREE CERTIFICATION ORGANIZATION (GFCO)

Developed by the Gluten Intolerance Group (GIG), this gluten-free certification programme asserts that finished products (and their ingredients) must contain 10 ppm or less of gluten. Additionally, they may not contain any barley-based ingredients.

The on-going testing of products and equipment is required, along with an annual audit, and manufacturers must comply with all government regulations regarding allergens, gluten-free labelling and GMP.

### GLUTEN-FREE CERTIFICATION PROGRAMME (GFCP)

GFCP is a HACCP-based standard that aims to address incoming and process hazards, including undeclared gluten, as part of a manufacturer's overall food safety management system. It has been endorsed by the leading North American celiac organisations and administered by the Allergen Control Group.

The ingredients used in GFCP-certified products must contain 20 ppm or less of gluten, and the facility must have an auditable GMP/HACCP-based food safety system or equivalent in place. It must also undergo an annual audit from a GFCP-licensed auditing company/certification body.

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For more information about the range of SGS services regarding gluten-free certification, please visit [www.sgs.com/glutenfree](http://www.sgs.com/glutenfree) or send an email to [food@sgs.com](mailto:food@sgs.com)

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Husby, S., Olsson, C., and Ivarsson, A. (2014) Coeliac disease and Risk Management of Gluten. In: "Risk Management for Food Allergy", edited by Madsen, C.B., Crevel, R.W.R., Mills, C. And Taylor, S.L. Elsevier.

# FSMA FOOD DEFENCE: PROTECTING FOOD AGAINST INTENTIONAL ADULTERATION

The FSMA rule for “Mitigation Strategies to Protect Food against Intentional Adulteration” (or simply Intentional Adulteration rule) is aimed at protecting the US food supply against acts intended to cause wide-scale harm to public health.

The Intentional Adulteration rule is a major breakthrough, since it provides a regulatory framework for food defence, while keeping it at a practical level, covering the requirements of food defence plan, training and record-keeping (See Figure 1). The rule is covered under 21 CFR Part 121, and is divided into the following subparts:

- General provisions: Applicability, Definition, Qualification of individuals performing activities for prevention of intentional adulteration (Subpart A)
- Food Defence Measures: (Subpart C)
- Record keeping requirements (Subpart D)
- Compliance (Subpart E)

The Intentional Adulteration rule applies to both domestic and foreign companies that are required to register with the FDA as food facilities under the Federal



Figure 1: FSMA Intentional Adulteration rule

Food, Drug, and Cosmetic (FD&C) Act. The FDA has set compliance dates for the rule as follows:

- Very small businesses – those businesses (including any subsidiaries and affiliates) averaging less than \$10,000,000 in sales of human food – July 26, 2021
- Small businesses – those employing fewer than 500 persons – July 27, 2020
- All other businesses – July 26, 2019

The rule also offers exemptions and modified requirements for certain categories, namely:

- Small businesses are exempt, but would be required to provide upon request, documentation to demonstrate that the business is very small
- Holding of food, except the holding of food in liquid storage tanks
- Packing, re-packing, labelling or re-labelling of food where the container that directly contacts the food remains intact

- Activities that fall within the definition of “farm”
- Manufacturing, processing, packing, or holding of food for animals
- Alcoholic beverages (under certain conditions)
- Certain categories of on-farm manufacturing, processing, packing, or holding of foods

The notion of and guidelines for food defence have been around for many years, but FSMA has given it new momentum by integrating food defence into the food system. PAS 96 and other schemes have taught us best practices in preventing intentional adulteration, while FSMA has created an environment for food defence practices to grow and evolve within a sustainable system focused on preventing potential attacks.

## A PRACTICAL APPROACH

Best practices have taught us that implementing a corporate initiative such as food defence is best achieved with a multidisciplinary team. This team should be responsible for planning,



implementing and ensuring the effectiveness of the system.

The intentional adulteration rule requires facilities to develop a food defence plan which is based on assessing vulnerabilities in a facility's food system against potential attacks – both internal and external. As a starting point, a facility needs to identify the steps of its food system, in order to conduct an assessment of each step and pinpoint system vulnerabilities and critical areas. In FSMA, those areas are called Actionable Process Steps. These steps require remedies, or as the regulation calls them "mitigation strategies".

Once mitigation strategies are set, the facility is then required to have documented monitoring systems in place. Facilities will have a variety of monitoring methods to choose from, depending on their own systems, products and facility specifics. While in some facilities basic monitoring systems such as visual checks and random inspections may prove effective, others may opt for IT solutions, secondary intrusion detection systems, etc.

There are also verification requirements in FSMA. These would also be specific to each facility. Random sampling and testing, audits, mock intrusions or any other verification measure chosen by the facility would need to be documented. Other requirements include system reanalysis, records control and training.

### TRAINING

The FSMA rule for Mitigation Strategies to Protect Food against Intentional Adulteration has set specific requirements for training.

Individuals working at actionable process steps and supervisors of actionable process steps must be trained in food defence awareness and have the appropriate education, training, or experience (or a combination



thereof) to ensure they will properly implement the mitigation strategies at the actionable process steps.

There are also qualification requirements for supervisory personnel and individuals performing specific job duties, namely:

- Food defence plan preparation
- Vulnerability assessments
- The identification and explanation of mitigation strategies
- Reanalysis

### SUCCESS FACTORS

Best practices and industry experience have demonstrated that an effective food defence journey starts with a robust, multidisciplinary food defence team. Existing food defence procedures and documentation whether for Publically Available Standard (PAS) 96, Global Food Safety Initiative (GFSI) or other schemes can certainly be of great help in reducing the compliance burden. However, each facility has its own characteristics, unique vulnerabilities and therefore food defence plans should

be tailored to the facility.

Food defence is an on-going process as new means and threats are discovered every day. Any potential attack with the intention to cause public harm, whether external or internal, should be addressed and mitigated.

Training is a key requirement and a critical success factor in creating awareness and building organisational capacity to develop a robust food defence system.

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# US FDA'S NEW SODIUM RDI AND GUIDANCE FOR PREPARED/PROCESSED FOODS

Sodium (salt) in foods is contributing to a range of health issues, in the US and worldwide. The US Food and Drug Administration is tackling the issue at a national level, and numerous local programmes are also underway. SGS food expert, Jim Cook, explores the issue in more detail.

In June 2016, the US Food and Drug Administration (US FDA) published a draft guidance to the industry concerning voluntary sodium reduction goals for commercially processed, packaged and prepared foods.<sup>1</sup> The issue is that Americans consume an average of 3,400 milligrams per day (mg/day) of sodium, and the US FDA's Recommended Daily Intake (RDI) is reducing, from 2,400 mg/day to 2,300 mg/day. This means the average American is consuming 50% more sodium than the revised RDI. Too much sodium can raise blood pressure, which is a major risk factor for heart diseases and stroke. Some studies have indicated that by lowering individuals' sodium intake by 40% in the next decade, 500,000 lives could be saved, as well as nearly USD 100 billion in healthcare.

## SHORT AND LONG TERM SODIUM GOALS

The US FDA has established a 2-year short term goal and a 10-year long term goal to reduce sodium in processed, packaged and prepared foods. The short term goal is to reduce the sodium level from 3,400 mg/day to 3,000 mg/day, and the longer term goal will reduce this to near the 2,300 mg/day RDI.

The plan addresses all categories of processed foods that would have significant sodium. However, the main concern is with those items that have high sodium levels and which are also consumed in larger quantities or more frequently, such as pizza, sandwiches, deli meats, pasta dishes, snacks, breads and other bakery products. Some items such as seasonings and dried fish, whilst being very high in sodium don't impact



the consumer's sodium intake as much, because these items are not consumed in large volumes. The US FDA has established sodium reduction targets for 16 categories and 150 sub-categories, as not all products have the same levels of sodium or need to reduce sodium levels in the same quantities in order for the American population to reach the indicated overall recommended intake.

For each sub-category, the US FDA established a baseline sales-weighted mean sodium level from 2010 data, established a short and long term sales-weighted mean, and an individual product short and long term sales-weighted upper limit.<sup>2</sup>

## GLOBAL SALT REDUCTION INITIATIVES

What the US FDA is requesting is not unusual, as there are 75 countries working to reducing sodium and/or salt intake, and 39 of those have set specific

limits for one or more processed foods.<sup>3</sup> The United Kingdom's food safety salt (sodium chloride) reduction programme started in 2003 and has made significant progress over the years. Their 2012 salt targets in 80 categories have reduced salt levels in food by 40-50%, which means that 11 million kilograms of salt has been removed from foods. The current consumption of salt is still too high, at 8.1 to 8.8g/day so the new 2017 targets for 76 categories will help reduce salt intake closer to the 6g adult daily maximum.<sup>4</sup>

Brazil is another of those countries that is making strides in reducing individuals' sodium intake.<sup>5</sup> Since it started the reduction process in 2011 results have been promising. This has been difficult in a country burdened by both food insecurity and obesity, and the related diseases of both areas. Firstly, Brazil identified the categories,

<sup>1</sup>[http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ucm494732.htm?source=govdelivery&utm\\_medium=email&utm\\_source=govdelivery](http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ucm494732.htm?source=govdelivery&utm_medium=email&utm_source=govdelivery)

<sup>2</sup><http://www.fda.gov/downloads/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/UCM504014.pdf>

<sup>3</sup>[http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0009/186462/Mapping-salt-reduction-initiatives-in-the-WHO-European-Region.pdf](http://www.euro.who.int/__data/assets/pdf_file/0009/186462/Mapping-salt-reduction-initiatives-in-the-WHO-European-Region.pdf)

<sup>4</sup>[https://www.food.gov.uk/northern-ireland/nutrition/salt-ni/salt\\_targets](https://www.food.gov.uk/northern-ireland/nutrition/salt-ni/salt_targets)

<sup>5</sup><https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4451315>

FOOD CATEGORY	SODIUM 2010 MEAN	SODIUM SHORT TERM MEAN	SODIUM SHORT TERM UPPER LIMIT	SODIUM LONG TERM MEAN	SODIUM LONG TERM UPPER LIMIT
Feta cheese (soft)	1174	1120	1340	1000	1220
Salad dressings	1047	880	1200	590	920
Dry mix soup	1892	1640	2080	1290	1810
White bread	523	440	570	300	460
Frankfurters, hot dogs and bologna	1012	900	1150	730	1000
Pretzels	1214	1020	1460	750	1150
Pizza without meat/ poultry or seafood – frozen	508	420	570	260	420
Breakfast sandwiches on biscuits	736	660	810	440	650

such as breads, instant noodles, buns, snacks, cakes, breakfast cereals, soups, dairy products and meat products, which accounted for more than 90% of the sodium in processed food. Selected product categories were then targeted for reduction; these were instant noodles, breads and buns. As of 2014, the average sodium reduction in these categories has been 10 to 15%, from the initial basis in 2011. These programmes will continue until at least 2020 because Brazil wants to achieve an average sodium consumption level of 2,000 mg per day, as recommend by the World Health Organisation, from a starting point of 4,700 mg per day. The anticipated benefits of this would be a reduction in deaths from hypertension by 15% and a 10% reduction in deaths from heart diseases. This equates to 1.5 million people not needing hypertension medication, and those individual's life expectancy increasing by some four years.

### COMMUNITY PROGRAMMES

Additionally, various states, counties and cities in the US are participating in the United States Centre for Disease Control and Prevention (US CDC) Sodium Reduction in Communities Programme<sup>6</sup>. The programme's intended outcomes are to increase the availability and accessibility of lower sodium food products, and to increase the purchase or selection of lower sodium food products, thereby reducing sodium intake. Most of the programmes centre around providing lower sodium products to hospitals, government food services and vending operations, as well as to school meal programmes. New York City established a standard and implemented a labelling identity for these lower sodium products. Government agencies and hospitals were then encouraged to use these lower sodium products. The city of Philadelphia also worked with Chinese food service operations to make lower sodium options more available on the

menu. Washington State also increased the availability of lower sodium foods at non-chain independent restaurants.

This US FDA sodium reduction programme is just part of an initiative to have the US public make healthy food choices, because people who eat healthily have fewer health problems and this reduces the impact on healthcare systems. Other initiatives included in these healthy food choice programmes are the new nutrition facts panel, menu labelling and vending machine calories information.<sup>7</sup>

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<sup>6</sup>[http://www.cdc.gov/dhdsp/programs/sodium\\_reduction.htm](http://www.cdc.gov/dhdsp/programs/sodium_reduction.htm)

<sup>7</sup>[http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm527548.htm?source=govdelivery&utm\\_medium=email&utm\\_source=govdelivery#3](http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm527548.htm?source=govdelivery&utm_medium=email&utm_source=govdelivery#3)

# REDUCING OBESITY THROUGH SUGAR TAXES AND WARNINGS

Sugar is now considered as a main part of the cause of the worldwide obesity epidemic. Around the world, average sugar consumption continues to increase. At the same time governments and health authorities struggle to find way to persuade people to reduce consumption.

In May 2015, the World Health Organisation (WHO) issued a report on the Fiscal Policies for Diet and Prevention of Noncommunicable Diseases<sup>1</sup>, which basically advised that raising the retail price of sugary drinks by 20% will result in a reduction in consumption. They also advised that reducing the cost of fresh fruits and vegetables by 10 to 30% while at the same time increasing the cost of sugary beverages, would have the greatest impact on improving diet. While many locations throughout the world have readily taken up measures to warn consumers about, or tax, sugar and sugary drinks, reducing the cost of fruits and vegetables is not nearly as popular.

## SETTING THE SCENE IN THE UK

The United Kingdom (UK), has been using warnings such as “with sugars and sweeteners”<sup>2</sup> and stoplight information, green – good and red – high, with amber in between<sup>3</sup>, to convince consumers to eat fewer items that are not as good for them and to eat more of those that are good for them. However, the National Health Service (NHS) public notification through social media and blogs, coupled with the warnings appears not to have been as effective as desired in reducing the sugar consumption, especially for 4 to 18-year-olds. While Britons have been advised that sugar should only be 5% of one’s diet the 4 to 18 year old age group consumes sugar at an average of 13.4% of their diet. It becomes worse for 11



to 18-year-olds with their average diet comprising 15.2% sugar.<sup>4</sup>

Because the warnings and media notifications haven’t produced the results that were anticipated, the UK government will now decide whether to tax sugary drinks. The tax, which will apply to drinks with 5g of sugar per 100ml exclusive of fruit juice and milkshakes, is expected to raise GBP 285 million. This money will be used to promote exercise in schools.<sup>5</sup>

Taxes, warnings, or not allowing sugary beverages to be displayed/sold in certain areas, in order to reduce the intake of sugar is happening in other countries too.

## AMERICAN INTERVENTIONS

In the United States of America, the County of San Francisco requires the statement “WARNING: Drinking

beverages with added sugar(s) contributes to obesity, diabetes, and tooth decay. This is a message from the City and County of San Francisco”<sup>6</sup>, to be placed with all ads including billboards. Meanwhile, in the City of Philadelphia, starting on January 1, 2017, non-fruit drinks, flavoured water, energy drinks, pre-sweetened coffee or tea, and non-alcoholic beverages containing sugar or artificial sweetener will be taxed.<sup>7</sup> Exceptions will be made if the product contains more than 50% milk, fruit or vegetable juice, or is infant formula. Results from the recent US elections have created more locations in the US that are taxing soda. In California, the cities of San Francisco, Oakland and Albany have approved a tax of a penny per fluid ounce (fl. oz.) and in Colorado, the city of Boulder approved a tax of two cents per fl. oz.<sup>8</sup> New York City attempted to ban all sugary drinks

<sup>1</sup><http://apps.who.int/iris/bitstream/10665/250131/1/9789241511247-eng.pdf>

<sup>2</sup><https://www.gov.uk/food-labelling-and-packaging/food-and-drink-warnings>

<sup>3</sup><http://www.nhs.uk/Livewell/Goodfood/Pages/food-labelling.aspx>

<sup>4</sup><https://www.theguardian.com/society/2016/sep/09/sugar-warnings-not-reduced-consumption-public-health-england>

<sup>5</sup><http://www.theweek.co.uk/70632/sugar-tax-survives-in-watered-down-obesity-strategy>

<sup>6</sup><http://fortune.com/2016/05/18/san-francisco-warnings-soda-ads>

<sup>7</sup><http://www.npr.org/sections/thetwo-way/2016/06/16/482359140/philadelphia-becomes-1st-major-u-s-city-to-pass-a-tax-on-soda>

<sup>8</sup><http://www.reuters.com/article/us-usa-election-soda-tax-idUSKBN1341FL>

more than 16 fl. oz. (1 pint)<sup>9</sup> from being sold by food service operations. This ban would have excluded drinks with more than 70% fruit juices, sodas with artificial sweeteners, drinks with at least 50% milk or milk substitute, and alcoholic beverages. This ban never happened because the courts decided that the New York City Board of Health had exceeded the scope of its regulatory authority.

Sometimes, while the health benefits of sugar reduction are part of a regulatory change there are extra incentives for taxing these products. Recently, Cook County Board recently voted on and approved a penny per ounce tax on sugary drinks. While they stated the health benefits, they also clearly indicated that the revenues raised by the tax would help with a budgeted shortfall.<sup>10</sup> This regressive tax on working families will result in higher food costs if consumption doesn't change; it will also help Cook County raise about USD 74.6 million in 2017.

### TAXING TIMES IN MEXICO

Since the buying of sugary drinks is permitted and warnings to the public have not produced much change, are taxes the solution? In January 2014, Mexico issued a tax on sodas which resulted in a 12% reduction in purchases. This is significant, because before the tax was introduced the average Mexican consumed eight times more of a global soda brand than the worldwide average.<sup>11</sup> Mexico has confirmed that following the introduction of the tax, consumption of untaxed products such as milk and bottled water increased. More than 70%



of Mexico's population is overweight or obese. Unfortunately, the reduction in soda consumption didn't correlate with a definite calorie reduction – in reality, the population appear to have replaced calories lost from sodas with other calories from other sources. This happened even though at the same time as taxing sugary drinks they also taxed calorie rich foods, those with more than 275 calories per 100g.<sup>12</sup>

There are other countries, for example Denmark, Ecuador, Egypt, France, Finland, Hungary, Mauritius, the Philippines and Thailand that all have designed some warnings, restrictions or taxes on sugary beverages and non-essential energy dense foods. Many other countries are also evaluating warnings and taxation as methods to reverse the obesity trend. For those countries that have used taxation, the poorest members of their populations have reduced their sugary drinks purchases more than average wage earners.

### GLOBAL HEALTH ISSUE

The world population is becoming more overweight and obese, affecting the health of many, as diabetes claimed 1.5 million deaths in 2012. Governments are taking action because diseases arising from weight gain and obesity impact society as a whole. We know that excess fat, sugar and sodium/salt are bad for us, but efforts also must be taken to encourage people to adopt healthy eating habits and a healthy lifestyle.

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

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<sup>9</sup><https://thinkprogress.org/new-york-citys-large-soda-ban-is-officially-dead-9f7ec56b2fdb#dxj95mxg8>

<sup>10</sup><http://www.reuters.com/article/us-usa-soda-tax-idUSKBN1352Y0>

<sup>11</sup><http://fortune.com/2016/01/08/mexico-soda-tax>

<sup>12</sup><http://www.treasury.gov.za/public%20comments/Sugar%20sweetened%20beverages/POLICY%20PAPER%20AND%20PROPOSALS%20ON%20THE%20TAXATION%20OF%20SUGAR%20SWEETENED%20BEVERAGES-8%20JULY%202016.pdf>

# SGS'S FOOD TESTING CAPABILITIES IN COLOMBIA

## INTRODUCING SGS IN COLOMBIA

Established: 2014  
 Employees: 14  
 Laboratories: 1  
 Laboratory space: 150 m<sup>2</sup>  
 Location: Bogota

## SERVICES

Established in 2014, this laboratory has been set up with state of the art equipment and it is run by a team of experienced and knowledgeable scientists and technicians. Serving Colombia's growing agriculture industry, this laboratory delivers a wide range of food testing and analysis services, including:

- Chemical
- Microbiological
- Nutritional facts
- Physical

## PRODUCTS COVERED

Offering a broad range of food testing services, SGS's food laboratory in Colombia caters for a broad range of food categories:

- Beverages
- Dairy
- Grains and cereals
- Pastry
- Meat, poultry and seafood
- Fruit and vegetables
- Herbs and spices
- Tea and coffee
- Processed, canned and frozen foods
- Oil and fats
- Bottled water
- Confectionary and chocolate

## ACCREDITATIONS

Following two busy years setting up and establishing this laboratory, SGS is pleased to announce that this lab has recently been granted ISO 17025 accreditation by ONAC, Colombia's national accreditation



*Chemistry lab*



*SGS Colombia food laboratory team*

body. The accreditation scope includes sampling on food, food products and raw ingredients. It covers testing and calibration performed using standard methods, non-standard methods, and laboratory-developed methods.

## EXPERIENCE AND EXPERTISE

Part of the company's multilab, the team shares space and capabilities with SGS's local environment, health and safety testing team. They are experienced and

highly trained to deliver a full range of accurate and effective food testing and analysis services, with fast turnaround times and competitive pricing.

## JUAN SEBASTIAN SALAZAR ARIAS

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 [SGS Agriculture and Food](#)

# COMPARING GLOBAL FOOD SAFETY INITIATIVE (GFSI) RECOGNIZED STANDARDS

## UPDATED GFSI WHITE PAPER

This updated white paper aims to provide an overview of the Global Food Safety Initiative (GFSI) and what it means for an international food safety standard to be GFSI approved. It then goes on to discuss each of the GFSI approved schemes individually looking in detail at the key schemes which are offered by [BRC](#), [FSSC 22000](#), [IFS Food](#), [SQF Code](#), and [Global G.A.P.](#) For each of these, the requirements, benefits and certification processes are reviewed. There are five further schemes that are covered in brief. The most generic of the schemes and those most commonly adopted by branded goods manufacturers (FSSC 22000, BRC, SQF Code and IFS) are then compared, by discussing the criteria, similarities and differences between the schemes. It also includes a brief overview of alternative programmes that support small and medium sized businesses by providing a steppingstone prior to full GFSI food safety certification. The paper then looks at the merits of a customised single food audit and elaborates on the benefits using a case study as an example. The case study highlights how food safety standards have an extensive crossover with environmental, health & safety and quality standards; and although there is rarely one 'optimal fit' food safety standard for any given organisation, a combination of schemes brought together in one audit procedure may be a suitable solution.

Download your copy of: [Comparing Global Food Safety Initiative \(GFSI\) Recognised Standards](#)



## OUR WHITE PAPERS – LEARN MORE ABOUT FOOD QUALITY, SAFETY & SUSTAINABILITY

### UNDERSTANDING GLOBAL OLIVE OIL QUALITY, GRADING AND LABELLING REQUIREMENTS

The olive oil industry faces increased pressure to prove that its products live up to the quality and origin on the bottle. Consumers are now more aware than ever, that olive oils may not always be what is claimed or advertised. Recent poor harvests and increasing demand for olive oil once again raise the risk of olive oil adulteration or fraud for short-term financial gain. To protect olive oil's longterm reputation, all those involved in the supply chain must remain vigilant at this time against such activity – and ensure consumer confidence and demand for olive oil remains high. The purpose of this white paper is to provide an overview of the voluntary industry standards and government/ state regulations relating to olive oil. It aims to promote an understanding of the grading, quality, regulatory and labelling requirements of the industry, and to outline some of the current issues relating to adulteration and contamination.

Download your copy of: [Understanding Global Olive Oil Quality, Grading and Labelling Requirements White Paper](#)



### UNDERSTANDING, MONITORING AND MEETING THE DIFFERING GLOBAL MAXIMUM RESIDUE LIMITS (MRLS) FOR PESTICIDES IN FOOD AND FEED PRODUCTS

The purpose of this white paper is to provide an overview on current thinking within the food industry for how best to manage pesticide residue risk in food products and supply chains. The aim is to promote an understanding of the origins of pesticide residues, and current industry challenges due to increasing regulations for the management and compliance of products destined for the EU, US, China and Japan. This paper is aimed equally at those organisations with established pesticide residues risk control and management plans as well as those considering development and implementation of risk protocols.

Download your copy of: [Understanding, Monitoring and Meeting the Differing Global Maximum Residue Limits \(MRLs\) for Pesticides in Food and Feed Products White Paper](#)

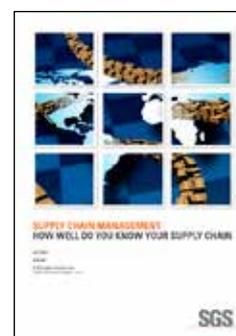


### SUPPLY CHAIN MANAGEMENT: HOW WELL DO YOU KNOW YOUR SUPPLY CHAIN?

In early 2015, SGS invited food industry experts to take part in a survey – Current Industry Practices in Supply Chain Management: How Vulnerable is Your Supply Chain?

This document looks at the subject, its definition, practices and risk management. We also review the survey's key findings to provide insight on the risks and challenges facing the industry's supply chains, as well as examining their causes and potential impacts. It is aimed at organizations with established supply chain management procedures, as well as those considering the development and implementation of risk management strategies.

Download your copy of: [Supply Chain Management: How Well Do You Know Your Supply Chain?](#)



### PROLIFERATION, REGULATION AND MITIGATION OF PERSISTENT ORGANIC POLLUTANTS (POPS) IN CONSUMER PRODUCTS AND SUPPLY CHAINS

The purpose of this white paper is to provide an overview on current thinking within the consumer goods industry for how best to manage POPs risk in consumer products and supply chains. The aim is to promote an understanding of the origins of POPs, current industry challenges due to increasing EU and US regulations, and the principles of POPs management and compliance. This paper is aimed equally at those organisations with established POPs control and management plans as well as those considering development and implementation of POPs risk protocols.

Download your copy of: [Proliferation, Regulation and Mitigation of Persistent Organic Pollutants \(POPs\) in Consumer Products and Supply Chains](#)



### TRANSPARENCY-ONE: SUPPLY CHAIN VISIBILITY

This white paper discusses the profound transformation taking place in food shopping and shopper behaviour, and the challenges in monitoring the supply chain and measuring product compliance to drive consumer trust. This document aims to promote understanding of the tool, the risk factors that drive supply chain compliance today and how it can be computed in a way that allows organisations to adapt quickly to improve supply chain quality and safety.

Download your copy of: [Transparency-One: Supply Chain Visibility](#)



To view more white papers from SGS experts please visit the [SGS White Paper Library](#).

## SGS WEBINARS

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

WEBINAR	LANGUAGE	WEBINAR STATUS & LINK
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>
GFSI Special Session Recap: Shaping Food Safety Culture in Food Service	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="#">Global Food Safety Conference</a>	USA	Houston, TX	February 28- March 2	Conference	313-315-414
<a href="#">North American Seafood Expo</a>	USA	Boston, MA	March 19-21	Tradeshow	681

## 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

- USDA announces that meat and poultry products can use the US FDA'S new nutrition facts panel – [view](#)
- US FDA finalizes guidance on voluntary qualified importer program and other FSMA updates – [view](#)
- Canada establishes MRL for hexythiazox in foods – [view](#)
- US FDA issues import tolerance for lufenuron and issues six seafood HACCP videos – [view](#)
- China update “measures on the supervision and administration of inspection and quarantine of inward aquatic animals – [view](#)
- EU amends food contact plastics – [view](#)
- Japan proposes to amend MRLS for erythromycin in foods – [view](#)
- Australia amends MRLS for six pesticides in various food commodities – [view](#)
- US GMO Disclosure And Labeling, National Bioengineered Food Disclosure Law – [view](#)

### FOR ENQUIRIES

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WHEN YOU NEED TO BE SURE

