

News from the World Of Spices June 2021



From the Chairman's desk

Greetings from World Spice Organisation!!!

We have had an active first quarter of this financial year following up on issues being faced by spice exporters with regard to ETO residues in spices shipped to Europe as well as on concerns being raised in overseas markets with respect to Chlorpyrifos and Heavy Metal residues in our spice products.

ETO residues in Spices

As the presence of ETO residues in spice consignments shipped to Europe is adversely affecting the trade, a Core Group was formed with Managers from the Quality Assurance/ Control Departments of 6 member companies to undertake a study on this issue. As a first step, we collected the data on 443 spice samples available with the companies as a part of their routine sample analysis and submitted it to Spices Board. Spices Board presented this data before the DG-Sante, European Commission in a meeting convened by the Indian Mission in Brussels.

It was also decided to undertake an in-depth study spanning a period of 3 months to identify the sources of ETO contamination at different nodes of the supply chain. This study will be conducted based on the SOP prepared by the Core group and the team has started collecting data as per the SOP.

Members also voiced their concern about issues being faced on Chlorpyrifos residues and Heavy Metal in spices. It was decided to conduct similar data analysis for these two parameters as well in order to identify the problem and arrive at a solution.

National Sustainable Spice Programme

NSSP is focusing on conducting Training of Trainers workshops for Master Trainers belonging to FPOs and farmer groups associated with the programme. These Master Trainers will in turn conduct classes for field extension managers who will then train the farmers who are members of the particular FPO/ farmer group in Sustainable Agricultural Practices (SAPs) to be followed. This will enable farmers to produce spices that will meet market requirements.

More than 50,000 farmer diaries are being printed in local languages for circulation among the farmers. Diaries for chilli in Telugu, turmeric in Tamil and Telugu, cumin and coriander in both Hindi and Gujarati and pepper in Malayalam and Kannada will be circulated.

Four training videos uploaded in the NSSP website on IPM Management, Biodiversity Management, Soil & Water Management and Child Labour Management will also be made available in Hindi, Gujarati, Marathi & Telugu.

Megha LAMP

IDH-India has partnered with the Government of Meghalaya, India on Meghalaya Livelihood and Access to Market Project (Megha LAMP) to build a market-linkage platform for ginger, pepper and turmeric grown in the state. Megha LAMP is an externally aided project of the Government of Meghalaya which is partly supported by International Fund for Agriculture Development (IFAD) and implemented by MBMA (Meghalaya Basin Management Agency). It aims to improve family incomes and the quality of life in rural Meghalaya. IDH will also support networking through the existing National Sustainable Spice Program in the country.

IDH and the Government of Meghalaya had organised Meghalaya Market Linkage Platform Meeting (Spices) on 18th and 19th of May 2021 with an aim to bring together buyers and producers to establish direct market linkages. The meeting was attended by officials from Meghalaya government, farmer representatives, spice traders/ exporters and members of WSO and AISEF.

Participants discussed the constraints in marketing the spices produced in Meghalaya despite the produce have a number of superior intrinsic qualities. The FPO groups from Meghalaya elaborated on the lack of accredited laboratories in the region, scarcity of adequate processing facilities and lack of market access opportunities. The major concerns raised by the buyers were the lack of adequate logistical facilities to transport the material to other parts of the country, quantities of produce available for transport being non-economical and the products not meeting the sanitary and phytosanitary requirements. On the second day of the session, spice exporters specified the mandatory requirements prescribed by them with respect to physical and chemical characteristics of the spices. This exercise proved helpful for the producers who could get an idea on the improvements required.

Many suggestions including the establishing a lab under Spices Board in Meghalaya, funding for more community owned processing units and setting up a platform for a long-term market linkage were made in the meeting to ensure market accessibility and quality of the produce. The Meghalaya authorities and FPOs also expressed their interest to work closely with NSSP and other platforms offered by WSO and AISEF.

Regular testing can confirm that performance within set specification

If food contaminated with foreign bodies reaches the retailers or even the end consumer, the associated direct and indirect costs for food manufacturers are immense - high recall costs, permanently damaged brand images and customer cancellations of supply contracts.

This is why the installation of inline product inspection systems which can detect foreign bodies on the production line is so important. However, simply installing the machines is not sufficient. To be truly effective, they must be backed up with robust testing practices and staff must adhere to a number of process steps over the entire lifecycle of the inspection system. Only regular testing can confirm that system performance is within the set detection sensitivity specification, and that product standards, whether those recognised through the GFSI initiative or by retailers and consumers, are being met.

Here are five steps to robust testing practice:

- 1: Use of Correct Test Samples
- 2: Use of Suitable Test Products
- 3: Compliance with Recommended Test Procedures
- 4: Compliance with Test Intervals
- 5: Electronic Data Management

There are many considerations to make, and many procedures that must be followed, if food manufacturers are to detect foreign bodies on the production line and reduce the risks of product recall. The keys are to establish good testing guidelines at the start; to ensure that staff understand what is required and are able to perform suitable tests; and to maintain accurate, easily accessible records of testing activity. Product inspection technology of course plays a critical role, but it must be backed up by good operational practice which is demonstrated through robust and regular testing. [Read more](#)

Scientists discover five new species of listeria, improving food safety

While examining the prevalence of listeria in agricultural soil throughout the U.S., Cornell University food scientists have stumbled upon five previously unknown and novel relatives of the bacteria.

The discovery, researchers said, will help food facilities identify potential growth niches that until now, may have been overlooked - thus improving food safety.

"This research increases the set of listeria species monitored in food production environments," said lead author Catharine R. Carlin, a doctoral student in food science. "Expanding the knowledge base to understand the diversity of listeria will save the commercial food world confusion and errors, as well as prevent contamination, explain false positives and thwart foodborne outbreaks."

One of the novel species, *L. immobilis*, lacked motility, or the ability to move. Listeria move a lot. Among scientists, motility was thought to be common among listeria closely related to *L. monocytogenes*, a well-known foodborne pathogen - and used as a key test in listeria detection methods. This discovery effectively calls for a rewrite of the standard identification protocols issued by food safety regulators, Carlin said. As listeria species are often found co-existing in environments that support the growth of *L. monocytogenes*, food facilities will monitor for all listeria species to verify their sanitation practices. [Read more](#)

Biofertilizers: Towards sustainable agriculture

Modern agriculture is still increasingly dependent on synthetic inputs to ensure requisite yield and productivity. One of the widely used, in certain cases, abused inputs, are chemical or synthetic fertilisers. While various studies establish the fact that judicious use of synthetic inputs is acceptable, its adverse effects, in the long run, can't be denied, the key one being the imbalance of the [soil ecosystem](#), which can reduce yield and, in turn, increase the use of chemical inputs, resulting in a vicious cycle.

In recent years, the growing adoption of organic farming has resulted in a more sustainable approach towards agriculture as it emphasises on adopting environmentally benign practices to ensure food security while protecting and nurturing soil biodiversity. Stakeholders are adopting various strategies to make organic and sustainable agriculture mainstream; one of the key ones being the use of [bio-based fertilizers](#) or bio-fertilizers to provide optimum nutrients to crop and enhance soil potency.

With interest in sustainability on the rise, there is much effort targeted towards the development of organic and sustainable fertilizers as inputs. While these terms are often used interchangeably, a way of differentiating between them is through the source of origin. Most of the bio-based fertilizer inputs are of plant and microbial origin, while organic fertilizers include those of animal origin too. The term "biofertilizer" itself has been denoted in various ways over the past 10 years. At present, biofertilizers are widely used to denote substances that are incorporated with microbes or other living cells or organisms that can help in nurturing plant growth and promote soil health; it also denotes growth-enhancing substances that are bio-based or bio-derived in origin. Irrespective of the terminology used, the underlying concept remains the same. [Read more](#)

Biodiversity decline needs to become a top priority beyond governments

After decades of focus from the world's governments, media and think tanks, most people now understand what climate change is and the impacts it implies to the future of humanity. Far fewer understand that the danger posed by biodiversity decline is every bit as serious. The health of the ecosystems upon which mankind and the world's species depend is deteriorating more rapidly than ever, threatening our health, food security, economic livelihoods and quality of life globally. Yet, biodiversity decline remains too far down on the list of priorities of most governments, businesses, and people.

Yet, according to the 2019 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 85 percent of the wetlands present in 1700 had disappeared as of last year, 75 percent of terrestrial environments (and 66 percent of marine environments) have been severely altered, and a third of reef forming corals and marine mammals are now threatened with extinction. The alarm bells are ringing, loudly.

Nature must itself be turned into an asset class. Businesses should come to realize that it is very much in their own interest to spend substantially more on biodiversity protection. They already know that being green can be profitable, as well as the right thing to do. The same can become true of biodiversity preservation. [Read more](#)

Review food safety standards

India has the second largest population in the world after China at 1.37 billion as per the latest UN estimate 2019. With such a huge population to feed, it is all the more important that the country has a strong agriculture base and an adequate supply of food. Though an agriculture economy, India imports a major portion of food items from international markets to meet its domestic consumption. It is important that India maintains a healthy level of food safety for all its imports, especially during Covid-19. Food safety refers to the practices, which prevent food from adulteration, contamination and food-borne illnesses.

Food safety standards have become an important issue for global trade. Food safety standards were set under the provision of the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). The number of specific trade issues brought to the WTO SPS committee increased from 2 in 1995 to 39 in 2020. Overall, 31% of the trade concerns raised related to food safety standards during 1995-2015. These concerns are increasing due to the ban of many Indian exported products.

Resultantly, India has lost millions of dollars in export earnings. India needs to take steps to boost the safety of imports such as fish, milk and milk products. In 2016, India banned the import of milk and milk products from China due to quality concerns. [Read more](#)

How mitigating food safety risks helps protect both reputation and bottom line

Keeping products free from contamination and at the proper temperatures throughout the cold chain is critical to maximizing food safety and quality. “Retailers rely on suppliers to keep their frozen aisles and perishable sections stocked with high quality products that continue to result in repeat purchases,” says Doug Thurston with Cold Chain Digital Solutions at Emerson. In recent incidents of foodborne illness, produce was often identified as a primary source of [contamination](#). “Delivering the safest and freshest products possible is fundamental to ensuring consumer safety and protecting the grower’s and retailer’s brand reputation.”

What’s at stake for grower/shippers?

Although the human impact is incalculable, the financial costs of food recalls and foodborne illness outbreaks have significant ramifications to growers and their retail partners. According to a recent food industry study, a foodborne illness incident can tarnish producer’s reputations and increase the risks of legal, financial, and regulatory penalties. The [study](#) also revealed the far-reaching consumer impact:

- 44% will avoid the brand for a few months after an outbreak.
- 20% will never return/use the brand again.
- 16% will switch to a competitor’s brand.
- 20% will return once the issue is resolved.

[Read more](#)

FDA says irrigation water most likely cause of onion Salmonella outbreak

The U.S. Food and Drug Administration (FDA) on May 13 released a [report on its investigation of the Salmonella Newport outbreak](#) that caused more than 1,600 reported illnesses in the U.S. and Canada between June and October 2020.

The FDA worked with the U.S. Centers for Disease Control and Prevention (CDC), state partners, and Canadian officials (Public Health Agency of Canada and Canadian Food Inspection Agency) [to investigate the outbreak](#), which was linked through epidemiology and traceback to whole red onions supplied by Thomson International Inc., headquartered in Bakersfield (Southern San Joaquin Valley) with additional operations in Holtville (Imperial Valley), California.

The outbreak is the largest Salmonella foodborne illness outbreak in over a decade. The report released today includes an overview of the traceback investigation, subsequent on-site interviews, visual observations of the growing fields, and environmental sampling, and various factors that potentially contributed to the contamination of red onions with Salmonella.

Although a conclusive root cause could not be identified, several potential contributing factors to the 2020 Salmonella outbreak linked to red onions were identified. These include:

- potentially contaminated sources of irrigation water;
- sheep grazing on adjacent land;
- signs of animal intrusion; and
- food contact surfaces that had not been inspected, maintained or cleaned. [Read more](#)

China's safety requirements pose challenges for food exporters

Imported foods such as seafood, meat, processed foods and beverages are becoming more common on China's supermarket shelves and restaurant tables, creating opportunities for exporters worldwide. However, selling these products to China also presents challenges as exporters must comply with standards and food safety regulations that Chinese leaders have called "the strictest ever".

Over the past two decades, China has imposed numerous new food-related laws and standards, mostly to address its own problems with food safety and fraud. Imported food also must meet these requirements, some of which are unique to China. Exporters of certain foods like meat and dairy must pass audits and register with Chinese authorities. Foods sold in China must bear labels in Chinese script with contact information for suppliers while certain words and phrases are banned. Some product standards specify which nutritional content and allowable additives and dyes are allowed in the country.

Customs officials inspect and test food shipments to ensure exporters comply with these requirements. Between 2006 and 2019, officials reported rejecting an average of 2600 food shipments per year from all countries. The overall risk of food shipment rejections is not high — less than 0.5% of shipments are rejected in most years. [Read more](#)

Researchers say zero risk not possible in food safety

There is no such thing as zero risk when it comes to food safety, according to researchers.

Consumers, industry and governments typically desire foods that are free of any risk but scientists said zero risk is unattainable in food production regardless of the severity of inactivation treatments or stringency of sampling programs.

Risk-based approaches such as Microbial Risk Assessment (MRA) are increasingly used to manage food safety hazards, evaluate risks and identify control strategies that reduce risks to an acceptable level.

Researchers Marcel Zwietering, Alberto Garre, Martin Wiedmann and Robert Buchanan presented the study, published in [Current Opinion in Food Science](#), at IAFP Europe.

They defined residual risk as what remains even after a fully compliant food safety system has been implemented. Every product has a residual risk but severity varies because it depends on a variety of factors such as the perspective or consequences.

Researchers said if decisions were based only on testing, it could falsely be concluded that if a hazard has not been detected, the associated risk must be zero.

“As an example, the fact that a given pathogen has never been detected in a product does not ensure that the implemented safety controls assure a hazard-free or zero risk product,” according to the researchers.

[Read more](#)

Regulatory bodies need to be more vigilant to ensure food safety, quality: FSSAI chairperson

Regulatory bodies need to be more vigilant to ensure [food safety](#) and quality, [Food Safety and Standards Authority of India \(FSSAI\)](#) Chairperson [Rita Teotia](#) has said.

Inaugurating the fifth session of the Codex Committee on Spices and Culinary Herbs (CCSCH) on April 20, Teotia described the risk of unscrupulous and intentional adulteration of spices through substitution due to their high economic value.

"This economically motivated adulteration is a major malpractice and we need to be extremely vigilant, particularly in the regulatory space to avoid such practices," she said.

It is important to have harmonised Codex standards for spices products in global trade and this is a work that needs the highest priority to ensure the safety and quality of the spices and culinary herbs being traded across the world, Teotia emphasised.

"The regulatory bodies need to be more vigilant to ensure food safety and quality," she said. The session was attended by nearly 300 experts from 50 countries.

Guilherme da Costa Jr, Chair of Codex Alimentarius Commission, said it is essential to develop and disseminate Codex standards to ensure the safety and quality of food for everyone, everywhere. [Read more](#)

5 ways that condition-based maintenance improves food safety

Traditionally, the **maintenance** function predominantly focused on keeping equipment running by fixing failures. In today's world there is increasing pressure on food and beverage manufacturers to not only increase productivity, but also deliver safe food in a sustainable way from an environment that is safe for its workers.

Food safety problems can have many root causes. A significant number of incidents reported to the US Food and Drug Administration (FDA) and **Rapid Alert System for Food and Feed (RASFF)** are caused by contaminations with extraneous material, like metal pieces coming from broken equipment, grease or detergent remnants. Cross contamination and pathogens are other reasons why food and beverage manufacturers must recall products.

Many of these problems can be avoided by making maintenance an integral part of food safety procedures via the adoption of modern technologies such as the Industrial Internet of Things (IIoT), artificial intelligence (AI), and prescribing in-time service, mobility and remote service using augmented reality (AR).

[Read more](#)

EFSA scientist highlights key issues at IAFP Europe

Antimicrobial resistance (AMR), novel foods and emerging risks are some of the main topics facing the food system, according to EFSA's chief scientist.

Marta Hugas, from the European Food Safety Authority (EFSA), said regulatory agencies face challenges ranging from current priorities, such as tackling AMR and food waste, to identifying emerging risks, where methodologies or data may be lacking, such as microplastics in the food chain.

Hugas told attendees at IAFP's European Symposium there are difficulties when providing scientific advice to policy makers and the public.

"First of all is the complexity, every time the volume of evidence keeps increasing so assessing thousands of papers takes a lot of time. We are experimenting with using Artificial Intelligence for pre-selection of papers and adding some inclusion and exclusion criteria. The methodologies are also evolving and we need to be able to capture and apply this methodology," she said.

"Societal expectations are also very demanding. They want us to have a holistic approach, so not to look at pesticide by pesticide but the whole exposure of chemicals to public health. Also, they want us to be transparent so they can scrutinize what we do and at the same time, the desire to participate, which is valid but poses some challenges on how to organize that." [Read more](#)

What Is the Sustainable Use of Pesticides Directive?

The agricultural industry is under significant pressure at the present time. Not only does it have to produce enough food to sustain a ballooning global population, but it must also grapple with other factors such as climate change, loss of biodiversity and environmental pollution.

Pesticides have proven to be an invaluable method of maximising crop yields from the space available whilst simultaneously warding off unwanted pests, invasive plant species and disease.

However, many pesticides contain chemicals that can damage human health and biodiverse ecosystems if they are used excessively and allowed to accumulate in the environment. For that reason, the EU instituted strict controls on their deployment in 2009, with the introduction of the Sustainable Use of Pesticides Directive (SUD). For more than ten years, the SUD has served the agricultural community and EU lawmakers well in delineating guidelines for responsible use of these tools, but **it now requires evaluation and revision** to ensure it remains relevant today.

Failings in the current SUD

Since the inception of the SUD, the EU has been gathering compliance monitoring indices across the bloc to determine how effectively it has performed its role in policing the use of pesticides. Disappointingly, the figures demonstrate that sales of chemical pesticides have remained more or less at the same level for the last decade, with uptake of non-chemical alternatives well below anticipated targets. This may be due to a lack of availability or effectiveness in the alternatives in separate member states. [Read more](#)

FSSAI amends 'gluten free' norms, removes provisions to cut gluten content

The Food Safety & Standards Authority of India (FSSAI) has amended the regulations related to 'Gluten Free' products and removed the provisions for food products, processed specially to reduce gluten content.

In this regard, the recently notified Gazette notification says that the regulation 2.15 of the Food Safety and Standards (Food Products Standards and Food Additives) Regulations shall be omitted.

The regulation 2.15, related to food specially processed to reduce gluten content to a level 20 -100mg/kg, explained that such food consists of or are made of one or more ingredients which may contain rice, millets, ragi, oats, rye, barley, maize, wheat, pulses and legumes containing gluten content in range of 20 -100 mg/kg. This provision now stands omitted.

Regulation 2.14.4 says that for the purpose of labelling a product as gluten free, when such a product is analysed, the gluten levels shall be below 20 mg/kg as per the method declared by the Organization for Economic Co-operation and Development or the Association of Official Agricultural Chemists.

[Read more](#)

FDA Releases Ambitious Action Plan for Further Reducing Children's Exposure to Toxic Elements from Foods

The U.S. Food and Drug Administration (FDA), industry, policymakers, and consumers share a common goal of ensuring that the foods and beverages Americans eat and drink are safe, and the law has long prohibited the adulteration of food that “contains any poisonous or deleterious substance which may render it injurious to health.” As science and technology advance, so too does our collective understanding of what that famous statutory phrase from the Food, Drug, and Cosmetic Act should mean. Accordingly, FDA’s mission in overseeing the safety of the food supply is constantly subject to change. One excellent example of that is playing out in real time, because due to enhanced methods of detecting toxic elements in food, consumer interest groups and Congress have raised questions about FDA’s apparent lack of interest in looking for potential contaminants in our foods (even as available data show that the levels of some metals, like lead, have been in a general decline in the food supply as manufacturing also becomes more sophisticated and controlled and industry invests in better detection methods in the advancement of the shared goal of food safety).

So although it’s not top of mind for many of us, there are in fact toxic elements in the foods we grow and eat. They may come from the air, soil, water, or manufacturing processes used to produce a crop and the levels of elemental toxins absorbed may vary. [Read more](#)

Glyphosate-Based Herbicides and Sustainable Agriculture Do Not Mix!

Glyphosate-based herbicides (GBHs) are incompatible with sustainable agriculture goals, according to a recent scientific literature analysis by scientists at Tufts University, Massachusetts. Glyphosate is the most commonly used pesticide active ingredient worldwide, appearing in many herbicide formulas, including Bayer’s Roundup™. The use of this chemical has been increasing since the inception of crops genetically modified to tolerate glyphosate. However, studies demonstrate glyphosate is the main contributor to human, biotic, and ecosystem harms as toxicities from herbicides are now double what it was in 2004.

The National Academy of Sciences identifies four goals of sustainable agriculture—productivity, economics, environment, and social well-being for future generations. However, pesticides like glyphosate are ubiquitous in the environment, putting the health, economy, and food/resources for future generations at risk. Therefore, research like this is vital for understanding how chemical use can undermine sustainable agriculture goals to protect humans, animals, and environmental health.

Researchers thoroughly examined ~3,000 scholarly sources to analyze whether GBHs meet sustainable agriculture goal standards. [Read more](#)

India's new spice merchants

It is estimated that a spice changes hands almost 10 times (in trade) once it leaves the farm. Inevitably, freshness is lost, and valuable essential oils are sometimes extracted before it lands on retail shelves. For something that forms the underpinning of most Indian cuisines, it is ironical that the way spices are sourced and used gets such little attention in the modern Indian kitchen.

Fortunately, a few small farmers and entrepreneurs are trying to fix this by putting high quality, cleanly-sourced spices into the spice box. It is an approach which can eventually make our pantries more fragrant and discerning, even as small growers benefit.

Araku's green gold

When industrialist Anand Mahindra recently tweeted that "Araku could be the new Shangri-La", he was not just giving a thumbs up to a sustainable agriculture project in Andhra Pradesh known for its coffee. He was heralding a new approach that the social enterprise project is ushering into the growth and trade of a commodity that is in need of a major overhaul in India: pepper.

Part of the Naandi Foundation, a public charitable trust, the Araku project has helped 1,00,000 adivasi farmers who grow coffee in the region. But this year, some of these small farmers forayed into exporting pepper, whose price globally has been zipping up.

[Read more](#)

How Nestlé is leveraging agriculture and forestry to fight climate change

Swiss food giant Nestlé has a carbon footprint that is twice the size of Switzerland's emissions linked to fossil fuel use. The company has a target to reach net zero by 2050 – and it believes that the regenerative potential of agriculture and forestry will help it get there.

[Read more](#)

FDA analysing Salmonella contamination in retail packages of spices

08-Mar-2016 By Joseph James Whitworth

The US Food and Drug Administration (FDA) is working through data from a two-year study on the presence of Salmonella in retail packages of spices.

[Read more](#)