

News from the World of Spices



March 2026

From the Chairman's Desk

Dear Members,

As we move through 2026, the World Spice Organization (WSO) remains dedicated to addressing the technical and regulatory hurdles that impact the global spice trade. The recently concluded International Spice Conference 2026 had interesting discussions on regulations, shared responsibility and the way forward.

In our recent discussions, we have focused on two critical areas requiring urgent industry-wide alignment: the impending EU regulations on Mineral Oil Hydrocarbons and the complex challenge of establishing fair Maximum Residue Limits (MRLs) for spice mixes.

International Spice Conference 2026 (ISC 2026)


ISC 2026 was held in Kochi, Kerala on 22- 26 February, 2026. The event featured crop and market reports and keynote addresses by eminent orators, famous authors and industry leaders. Two business sessions in particular dealt with the regulatory and technical aspects of spice industry. Short summaries of these sessions are given after the Chairman's note.

CSR project on Sustainable cumin supply chains

Through our strategic partnership with PI Industries Ltd, the World Spice Organisation successfully implemented a transformative sustainability project in the Jodhpur district of Rajasthan during FY25-26, focused on establishing a resilient and IPM-compliant cumin supply chain. By establishing model demonstration plots and conducting AESA-based farm schools, we empowered 60 direct and 300 indirect farmer beneficiaries to adopt advanced resource-efficient practices, such as sprinkler irrigation and Integrated Nutrient Management (INM), resulting in a 15–20% reduction in cultivation costs and an impressive 100% compliance rate with international MRL standards. A key highlight of the initiative was the enhancement of social sustainability through the creation of women-led bio-input centers, which not only improved the role of women in farm decision-making but also established a self-sustaining ecosystem for affordable, biological crop solutions.

Strategic Stakeholder Consultation





On March 12th, we held a stakeholder consultation attended by over 60 participants to build industry consensus on several pressing matters. Key decisions from this session include:


- **Application of Measurement Uncertainty (MU):** We are formally requesting the Spices Board to align its reporting with international standards, such as SANTE, which allow for a 50% analytical uncertainty margin during enforcement. Currently, many members face local rejections for marginal levels that are routinely cleared at destination ports due to the Spices Board's neutral stance. Adopting this 50% factor would prevent the technical rejection of borderline compliant goods.
- **Revival of Spice House Certification:** We have proposed modifying the Spice House Certification to include self-certification for accredited internal laboratories. Under this model, NABL-equipped facilities could issue Spices Board-endorsed test reports subject to rigorous periodic audits, effectively reducing testing bottlenecks and lowering analytical costs. This is similar to the EIA self-certification quality programme for black pepper shipments to the USA.
- **Intergovernmental Advocacy:** We are requesting the Board to engage with the European Commission / EFSA through the Ministry of Commerce and the Indian Embassy at Brussels to form agreements for the safe return of rejected consignments. Currently, these goods are often destroyed at foreign ports, and a formal government-to-government dialogue is essential to protect exporter interests.
- **MRL Working Group:** The meeting also resolved to form a specialized Working Group to address the lack of a universally accepted method for determining MRLs in spice blends.

Progress on Spice Mix MRLs

The first meeting of the MRL Working Group was held on March 26th. To establish a scientifically sound framework for MRLs for pesticides in spice blends, we have decided to collect comprehensive data from members regarding the specific compositions of manufactured spice mixes and submit this data to the Spices Board to aid in regulatory mapping. The list of ingredients could be given within a range and need not be in specific percentages. We have also recommended a targeted study to establish dedicated MRLs and processing factors for spice mixes to ensure fair assessment by international regulators.

Pesticide Management Bill

Regarding domestic legislative changes, we studied the Pesticide Management Bill (PMB) 2025, a comprehensive piece of legislation designed to modernize India's agrochemical sector by replacing the outdated 1968 Act. The Bill prioritizes



environmental safety and digital transparency through a life-cycle approach, mandating digital traceability from factory to farm and establishing a two-tier institutional framework for scientific oversight. Following a meeting of our technical committee, WSO has submitted formal comments to the Ministry regarding "deemed registrations" for generic pesticides and other safety aspects to ensure these new regulations support the ease of doing business without compromising quality.

The Challenge of MOSH and MOAH

The European Spice Association (ESA) has alerted us to a WTO notification from the EU that establishes MRLs for Mineral Oil Aromatic Hydrocarbons (MOAH) in spices. These limits are proposed at 10 mg/kg starting January 1, 2027, and slated to reduce to 5 mg/kg by January 1, 2030. This is particularly challenging as the current analytical methods for spices are not standardized and exhibit uncertainty levels of 70-80%.

In a technical meeting with exporters and Spices Board officials, it was decided to request Spices Board to submit a formal response to the WTO citing these analytical deficiencies. We would like to seek a meeting with European counterparts to better understand the required analytical procedures in the absence of a standardized global method. We have also requested Spices Board to come up with an advisory on the Good Agriculture and Manufacturing Practices (GAP and GMP) to avoid Mineral Oil Hydrocarbon contamination.

Looking Ahead: NSC 2026

Building on the momentum of ISC 2026, we are now planning the National Spice Conference 2026 (NSC 2026) on a much larger scale. Attendees can look forward to more exhibition stalls, a higher number of delegates, and informative business sessions designed to drive growth in our sector.

We will keep you updated on further developments and look forward to your continued support and participation.

Warm regards,



Ramkumar Menon
Chairman



Technical sessions at International Spice Conference

The session titled **"From Safe to Superior: Raising the Bar of Quality and Compliance"** chaired by Mr.

Nishesh Shah, served as a cornerstone of the International Spice Conference 2026. Mr. Shah set a forward-thinking

tone for the discussion, guiding the panel through the critical transition from basic safety compliance to achieving global excellence in spice quality. A major highlight was the unveiling of the "Best Lab Project" by Dr. Venugopal KJ Menon, which provided a technical benchmark for NABL-accredited labs in India. By identifying top-performing laboratories, the project underscored the industry's commitment to providing global buyers with the highest levels of analytical assurance, particularly regarding complex parameters like pesticide residues and Ethylene Oxide (ETO).



The panel further engaged in a high-level dialogue regarding the evolving regulatory landscape, featuring insights from Dr. JP Singh, Plant Protection Adviser, Dr. Paresh Shah, Chairman, Pesticide Panel-FSSAI and Mr. Roberto Fanni, Technical Head- ESA. The discussion centered on the urgent need to shift from a "hazard-based" detection mindset to a "risk-based" approach, advocating for Maximum Residue Limits (MRLs) that are grounded in actual consumption data rather than just laboratory detection limits. Dr. JP Singh highlighted the importance of harmonizing Indian GAP with global standards, while the panel collectively

stressed that "superiority" is a collaborative goal. By bridging the gap between farm-level practices and international regulatory expectations, the session concluded that the Indian spice industry is well-positioned to lead the world not just in volume, but in uncompromising quality and trust.

The session "**World of spices in 2030: the evolving spice regulatory landscape**" chaired by Mr. Ramkumar Menon, offered a comprehensive look at the future of the global spice industry through the eyes of key representatives from both consuming and producing origins. Panelists Ms. Laura Shumow (ASTA), Mr. Stefano Trumpy (ESA), and Ms. Lien Hoang (VPSA) joined the Chair to discuss a transition from a volume-based market to one driven by value, quality, and compliance. The session highlighted that the global spice trade, currently estimated at \$20-22 billion with a CAGR of 6-7.5%, faces a rapidly changing landscape where reputation and consumer trust are becoming the primary drivers of growth. A significant development noted was the signing of Memorandums of Understanding (MOUs) between the AISEF and major associations like ASTA and ESA to foster closer global cooperation.



A central theme of the discussion was the "shared responsibility" between producing and consuming nations to ensure food safety and sustainability. Ms. Shumow detailed US efforts to address lead contamination and the evolving status of Ethylene Oxide (ETO) regulations, while Mr. Trumpy emphasized the European shift toward a risk-based assessment and the importance of structured farming programs to ensure quality at the source. Ms. Lien Hoang provided the

perspective of a major producer, Vietnam, stressing the need for regenerative agriculture and digital traceability to meet stringent international standards like the EU Deforestation Regulation (EUDR). Collectively, the panel concluded that achieving the 2030 growth targets will require harmonized global regulations, transparent communication, and a unified stance against food fraud to maintain the integrity of the spice supply chain.



BAPP Publishes Comprehensive Review on Turmeric Rhizome/Root Powder and Extract Adulteration

A new [comprehensive review of turmeric adulteration](#) by the ABC-AHP-NCNPR Botanical Adulterants Prevention Program (BAPP) has been published in a special issue of the peer-reviewed scientific journal *Pharmaceutical Biology*. The special issue focuses on the safety, efficacy, and quality of turmeric.¹ The paper marks BAPP's 100th peer-reviewed publication since its founding in 2011.

Turmeric (*Curcuma longa*) is widely used as a culinary spice and as an ingredient in dietary/food supplements and herbal medicines for its purported health benefits. Turmeric dietary supplement retail sales ranked #1 in the US Natural Expanded Channel and #4 in the US Mainstream Channel, with combined 2024 sales totaling more than \$179 million, according to ABC's 2024 Herb Market Report.² However, reports assessing the authenticity of commercial products have shown that the ingredient is subject to adulteration with artificial dyes, undeclared diluents such as cornstarch, and synthetic curcumin, among other lower-cost substances.

Information about turmeric adulteration dates back to the 19th century. At that time, turmeric powder was known primarily as an adulterant of other spices, especially mustard seed. However, adulteration of turmeric itself with lead chromate, a toxic dye used to enhance the powdered rhizome's yellow color, may also date back to the 19th century. The first documents mentioning lead chromate as an adulterant were published in a 1948 report by the British Food Standards Committee. Other synthetic dyes, such as metanil yellow, which is classified as potentially genotoxic and possibly carcinogenic, appear to have been used in the turmeric trade at least since the 1960s, although publications documenting such use are scarce. [Read more](#)

3 must-watch emerging food & drink categories for growth in 2026

The basic concept of 'food as medicine' is by no means a new concept, having roots in Traditional Chinese Medicine (TCM) and other ancient forms of medicinal systems for thousands of years – but this has undoubtedly seen a resurgence in recent years.

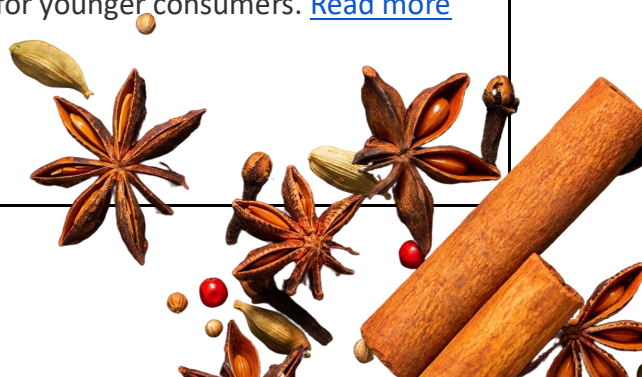
Unsurprisingly, China is leading the charge here from a policy and governance aspect, with the central government announcing a renewed interest in this sector via the Food As Medicine (FAM) or 药食同源 national campaign.

This has led to many large and small food companies scrambling to come up with novel innovations that fall under the FAM category, most of which have a health and/or functional focus.

"The government is placing a lot of importance on this campaign, with over 100 ingredients having been categorised as part of the FAM ingredients list, including Canadian ginseng," ginseng specialist firm Herbal Player GM Celia Xie told us.

"One of the core concepts of FAM is the simplification of healthcare and integrating these functional ingredients into daily diets, so industry needs to focus on removing the complications that come with traditional healthcare to achieve this."

TCM treatments generally require ginseng and many other medicinal herbs to undergo long processing or boiling for consumption as a tea, tonic or brew – the vast majority of which end up being very bitter and a major turn-off especially for younger consumers. [Read more](#)



Are consumers willing to pay for innovative sustainable foods?

Innovative sustainable animal products and plant-based alternatives can plug health and environmental concerns – but consumer willingness to pay for these products remains variable, finds an EU-funded study.

The EU's scientific research initiative Horizon Europe has supported an investigation into whether consumers across the globe are willing to pay for “sustainably innovated animal products and plant-based alternative foods”.

According to researchers from Germany, Czech Republic and Italy, replacing animal-based foods in human diets with innovative alternatives certainly addresses concerns regarding health, environmental sustainability and animal welfare but whether consumers are willing to pay for such innovations “remains unclear”.

Balancing the food innovation line

Writing in Future Foods, the team presented findings from a meta-analysis of 67 existing studies to shed light on the issue. Review results showed that willingness to pay estimates are “highly heterogeneous” and very much “product and context specific”.

“On average, consumers are willing to pay more for innovative alternatives, when they improve animal welfare or environmental sustainability compared to their respective conventional animal products,” the researchers wrote. “In contrast, for plant-based options and foods developed in a laboratory or through genetic engineering, consumers require a discount to choose these alternatives over the conventional product.” [Read more](#)

Turmeric Board promotes IPM practices to boost spice crop exports

The National Turmeric Board on Tuesday conducted a farmer awareness and quality improvement training programme at Kowtla (B) in Nirmal district to promote the adoption of Integrated Pest Management (IPM) in turmeric cultivation.

Over 100 farmers and several Farmer Producer Organisations (FPOs) from turmeric-growing areas in the district attended the event. The Board selected Nirmal district for the initiative to ensure that pesticide residue levels in turmeric are reduced and overall quality is improved. It aims to reduce residue levels and promote residue-compliant turmeric suitable for premium export markets through the focused awareness programmes and training.

Speaking to farmers, Secretary of the Board N. Bhavani Sri explained the importance of adopting IPM practices to improve turmeric quality and strengthen India's export potential. She stated that export markets such as the European Union, the United States, the United Kingdom, Japan and Korea follow strict regulations for pesticide residues, aflatoxins and other contaminants.

Suggesting the farmers to adopt scientific cultivation practices at the farm level to ensure that turmeric meets international quality standards, she highlighted how biological, mechanical and botanical approaches could help farmers manage pests while reducing dependence on synthetic pesticides. [Read more](#)



AI to boost agricultural productivity, improve quality of life for farmers

The government on Wednesday unveiled a new agenda aimed at maximizing the use of artificial intelligence (AI) to boost agricultural productivity and improve the quality of life for farmers across Korea.

The initiative, jointly announced by the Ministry of Agriculture, Food and Rural Affairs and the Ministry of Science and ICT, builds upon the government's previous smart farm program, which had largely focused on productivity. The new road map broadens the scope to include agricultural distribution and improvement of farmers' daily lives.

The scope of the plan's beneficiaries will also be expanded from a limited group of high-performing farms to farmers nationwide.

Under the slogan "AI for easier farming, more stable supply and more vibrant rural communities," the initiative outlines 13 policy tasks under four key categories.

One of the central goals is to raise productivity across a broader range of farms. To achieve this, the government plans to develop and expand smart farm models that can replace labor-intensive tasks that currently require long hours of manual work. Shared smart farm machinery centers will also be introduced for the first time. Data centers dedicated to the agricultural sector are also expected to accelerate the plan's artificial intelligence transformation (AX) across farms. [Read more](#)

ANNAM.AI at IIT Ropar Announces Weather Network Deployment and AI Training Programme for Agriculture

Indian Institute of Technology Ropar announced a set of initiatives through its ANNAM.AI Centre of Excellence for Artificial Intelligence in Agriculture, established under the Ministry of Education, to support the use of data-based farming practices in India.

ANNAM.AI has started the deployment of 100 weather stations, with Punjab identified as the first implementation location. These stations will provide location-specific and real-time weather data to farmers to support decisions related to sowing, irrigation, and crop protection. The network is planned as a model for expansion to other regions.

The initiative is being developed as a digital public infrastructure for agriculture. ANNAM.AI is building systems for data-based farm management with support from the Ministry of Education. The rollout is being implemented in phases, with plans to extend to states including Haryana, Uttar Pradesh, Kerala, Odisha, Bihar, Jammu & Kashmir, Himachal Pradesh, and Maharashtra.

ANNAM.AI will also conduct a training programme for 10,000 students, rural youth, and agriculture professionals. The programme will focus on building skills required to use artificial intelligence applications in agriculture.

[Read more](#)



Here's Why You're Seeing So Many Food Recalls

It can feel like there's a new [food recall](#) every day—and in some cases, that's not far from the truth. As someone who covers food recalls for work, I'm constantly inundated with news of Listeria contamination, missing allergen information, and metal fragments sneaking into our favorite everyday products.

The good news is that it may not be quite as dire as it seems (seriously—trust me!). According to the FDA, food recall trends are broadly consistent with previous years. However, as [The Food Institute](#) reports, the FDA issued 15.4 percent more recalls in 2025 than in 2024, while still significantly lower than in 2023 and earlier years.

Even though the FDA works with the food industry to require preventive controls that address potential hazards, recalls can still happen. That's largely because of the scale and complexity of global supply chains, large-scale agricultural and manufacturing operations, and the reality that both human and system failures can occur. FDA oversight includes inspections, compliance, and enforcement activities, while recall effectiveness also depends on timely detection and companies taking responsibility for removing affected products from store shelves.

It's also worth noting that major policy changes made last year by the Trump Administration may have contributed to the operational strain. Companies were encouraged to shift production facilities to the U.S. or expand existing operations, which can add pressure—and with it, more opportunities for production issues. [Read more](#)

Meghalaya positions itself as emerging organic spice hub

The first-ever Meghalaya Spice Festival was inaugurated at the Jio World Drive, Bandra Kurla Complex (BKC), Mumbai, marking a significant national showcase of the State's expanding organic spice economy. In a strong statement of intent, a 140-member delegation comprising farmers, entrepreneurs, cooperative leaders and senior officials travelled from Meghalaya to directly engage with buyers from Mumbai and beyond.

The inaugural day witnessed strong footfall, sustained buyer–seller engagement and structured B2G meetings in spices and tourism. A high-level Forum on Opportunities in Meghalaya's Organic Spice Ecosystem set the tone for policy dialogue, while live processing demonstrations, tasting counters and curated retail displays transformed the venue into an active marketplace.

The Meghalaya Spice Festival aims to amplify the national and global market outreach of Meghalaya's premium organic spices, and the Inaugural edition itself, has started attracting buyers from Mumbai and beyond. Hosting the festival in Mumbai, India's commercial capital, reflects Government of Meghalaya's deliberate push to position its spices in premium domestic and international markets while ensuring that growth translates into higher incomes for farmers. The festival thus has been conceived as a strategic market-linkage platform to directly connect the State's farmers and spice entrepreneurs with national retailers, institutional buyers and global exporters. [Read more](#)



India's spice exporters to meet in Kochi amid tariff uncertainty and stricter residue norms

India's spice industry will gather in Kochi next week for the 9th edition of the International Spice Conference (ISC 2026) amid tariff uncertainty, stricter residue norms and supply-chain realignments in global agri-trade.

Organised by the All India Spices Exporters Forum (AISEF), the conference will be held from February 23 to 26 at Le Méridien.

The event comes at a time when India, the world's largest producer and exporter of spices, is recalibrating its trade strategies in response to shifting tariff regimes and heightened regulatory scrutiny in key importing markets, the organisers told reporters.

Emmanuel Nambusseril, Chairman, AISEF, said recent tariff adjustments and reciprocal trade measures underscored the vulnerability of agri-commodity exports to sudden policy shifts. "Even short-term duty escalations can redirect global sourcing and compress margins. Diversification of markets, greater focus on value addition and deeper regulatory preparedness are now structural necessities," he said.

The export environment is becoming increasingly science-driven and compliance-intensive. Future growth will depend on laboratory validation, integration of digital traceability, alignment with Codex and importing-country standards, and climate-resilient sourcing. [Read more](#)

Future agricultural policies need to integrate biodiversity targets into smart farming

Agriculture is under increasing pressure to provide high food and feed production while reducing negative environmental impacts. Over the past few decades, the strong intensification of agriculture has increased productivity, but also led to significant side-effects, such as unprecedented rates of biodiversity loss and habitat destruction. This has affected regulating and supporting ecosystem services, resulting in negative feedback on sustainable crop production. Clearly, increasing yields through further intensification of agriculture contradicts the goals of biodiversity conservation.

In recent years, one innovation in agriculture that is discussed increasingly in agricultural engineering, agronomy, and rural sociology, is smart farming (SF), which combines technological advances in the field of artificial intelligence and big data, with systems like sensor technology, robotics, and the internet of things, to reduce inputs while maintaining productivity. Previous work by both agronomists and ecologists has proposed that SF could contribute to environmental sustainability and biodiversity protection. However, SF has also been criticized as a resource-intensive technology, requiring natural resources for production and processing power for operation. In addition, the adaptation of new technologies by farmers raises questions about data ownership, participation, and industrial dependencies. [Read more](#)



The future of digital innovation in transforming food safety systems in the developing world

Abstract

Low- and middle -income countries bear the most significant burden of foodborne diseases, impacting their food and nutrition security, trade , and ultimately economic growth. Recent advances in digitization and artificial intelligence provide new opportunities to transform food safety systems, addressing inefficiencies through better oversight and improved decision -making. This article synthesizes current practices and developments related to food safety and digital innovation, and proposes a Digital Food Safety Transformation Framework.

Introduction: Underdeveloped food safety systems in LMICs ?

According to the 2025 State of Food Security and Nutrition in the World report, about 673 million people faced hunger and 2.3 billion people experienced moderate or severe food insecurity in 2024. As part of the food security and nutrition challenge, Africa and South-East Asia carry disproportionate foodborne illness and mortality, particularly among children under five. These estimates further underscore the urgent need to modernize food safety systems and ultimately transform the agrifood system. Still, low - and middle -income countries (LMICs) bear the burden of underdeveloped systems, including fragmented oversight, limited surveillance, a lack of risk -based principles, and the absence of internationally recognized food safety services. [Read more](#)

Agronomics' Jim Mellon on how to create a more sustainable future for food production

The global food system faces structural pressures that make current [agricultural](#) models unsustainable, and “no longer financially viable as our only way of producing food”.

That’s according to Jim Mellon, billionaire investor, entrepreneur and executive chairman of [Agronomics](#), an AIM-listed venture capital firm supporting the development of cultivated food products, cellular agriculture and other related categories.

He’s also written a book on the topic, *Moo’s Law: An Investor’s Guide to the New Agrarian Revolution*, which sets out the science and investment case for cellular agriculture and alternative proteins in future food production systems. As noted in its foreword, by Bruce Friedrich of The Good Food Institute, the book focuses on ‘solutions and optimism, and the capacity of human innovation to fundamentally transform what has long been considered understood – the nature of food and [farming](#).’

“We take [food](#) for granted, but we shouldn’t,” Mellon tells SustainabilityOnline. “From [climate change](#) to conflict, and from food cost inflation to negative health impacts, the global supply chain that feeds us is cracking under pressure. Conventional farming, he adds, contributes to emissions, deforestation and animal welfare issues, not to mention health and safety issues related to the use of antibiotics and other contaminants. [Read more](#)



Planting food forests can increase soil biodiversity in agricultural landscapes of Northwest Europe

Soil organisms drive ecosystem processes that underlie key benefits to humans such as nutrient cycling, plant production and soil carbon storage. Soils and their biota are, however, subject to a variety of threats, of which intensive agricultural practices are considered among the most important. Therefore, there is a strong interest in shifting to food production systems that preserve or even increase soil biodiversity, either by using less intensive management practices, or by implementing radically different approaches to food production. In the temperate zone, one of these alternative approaches that is currently gaining traction is the use of complex multilayered polycultures called food forests.

Temperate food forests are agroforestry systems structurally designed in analogy to semi-open forests or forest edges that are characterised by a high diversity of perennial plants occupying different vegetation layers and a high habitat heterogeneity. They are typically managed without synthetic fertilisers or pesticides and with limited soil disturbance. Many pioneering food forests in Northwestern Europe have passed an initial establishment phase and are now older than five years. This provides a timely opportunity to assess if installing food forests could help increase soil biodiversity in agricultural landscapes. [Read more](#)

FAO Chief Economist Warns Of Severe Global Food Security Risks From Disruption To Strait Of Hormuz Trade Corridor

The Chief Economist of the Food and Agriculture Organization of the United Nations (FAO), Máximo Torero, warned that the ongoing disruption to the Strait of Hormuz trade corridor is triggering one of the most severe shocks to global commodity flows in recent years, with significant implications for food security, agricultural production, and global markets.

Speaking at a United Nations daily press briefing, Torero highlighted that tanker traffic through the Strait of Hormuz has collapsed by more than 90 percent within days of the escalation. The vital artery for global trade typically carries around 20 million barrels of oil per day—approximately 35 percent of global crude oil flows—alongside one-fifth of global liquefied natural gas (LNG) and up to 30 percent of internationally traded fertilizers.

“This is not only an energy shock. It is a systematic shock affecting agrifood systems globally,” Torero said. He emphasized that the Gulf region accounts for nearly half of global sulfur trade, a critical input used to produce sulfuric acid for processing phosphate rock into fertilizers. Disruptions to sulfur supply risk fracturing global phosphate fertilizer production, including in major producing countries. [Read more](#)

World Spice Organisation, C/o All India Spices Exporters Forum, MM NO. VIII/121 (A), Jayanagar Road, Kannadikadu, Maradu - 682304, Ernakulam, Kerala, India. Phone: +91 9744615977. Mail : secretary@wsospice.org, technical@wsospice.org. Website: <http://wsospice.org/>

