

The positioning of mycotoxin research in the EU food safety scenario: outcomes of the EU Food Safety Forum

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EU Food Safety Forum: cultivating collaboration and innovation in food safety

Since 2021, starting with preparatory pre-forum events, the **EU Food Safety Forum** is serving as a **Science-Policy-Society interface**, an open space for EU debate and collaboration, a periodic appointment for institutions, Food Safety Authorities, European and National Agencies, universities and research centers, companies, enterprises, consumers and umbrella associations.

The Forum is a result of a comprehensive process of engagement to convey the Food Safety System stakeholders to participate, explore emerging/urgent issues, while sharing experiences and co-creating solutions, thus fostering their alignment for a common vision.

The positioning of Mycotoxin Research in the EU Food Safety scenario

The 2nd EU Food Safety Forum (Dec 2024) hosted a **collective reflection** on how **collaborative efforts** and **cutting-edge research** have already begun transforming food systems, equipping them to meet future challenges, by exploring relevant topics and research directions from EU projects and addressing the question:

How are EU projects driving innovation and boosting food safety in European food systems?

The **EC-funded mycotoxin research** is addressing significant **systemic challenges facing future food systems**, including:

- unravelling risk assessment and risk analysis challenges due to evolving consumption patterns, exposure to multiple mycotoxins, limited data on emerging and modified mycotoxins, and integration of biomarker-based approaches;
- fostering the integration of emerging technologies for rapid/early mycotoxigenic fungi/mycotoxin risk monitoring along the food supply chains;
- identifying, predicting, and managing (re)emerging mycotoxin risks in relation to big drivers such as climate change, circularity of resources, and transition towards sustainable food productions;
- addressing mycotoxin contamination by generating new knowledge, data, and tools to deliver solutions that can contribute to the safety and security of African Food Systems.

In addition, significant breakthroughs are expected to arise from exploring the role of **artificial intelligence** in delivering fit-for-purpose solutions to the aforementioned R&I actions.

The state-of-art mycotoxin research in the EU Food Safety scenario holds a pivotal role addressing the R&I needs highlighted in **Food2030 Pathways for action** while concretely supporting the goals of the **EU Bioeconomy Strategy** and the advancement of **EFSA's regulatory science**.



A ONE HEALTH issue



Mycotoxin contamination is not just a food safety issue but also a public health concern that affects livestock productivity and environmental sustainability, leading to economic losses in agriculture and food security challenges.

The ongoing EU-funded research builds on interdisciplinary collaboration across agriculture, health, and environmental sectors to mitigate the risks associated with mycotoxins.

This includes improving agricultural practices, developing AI-based approaches to counteract mycotoxin risks, enhancing food safety regulations, and increasing public awareness about the dangers of mycotoxin exposure.

Mycotoxins and leading challenges for the EU Food Safety Systems

- **Informing Regulatory Pathways:** Generate data-driven insights to support robust regulations integrating food safety with sustainability and stakeholder collaboration.
- **Data Availability and Sharing:** Improve access to harmonized data, methods, and terminology to enhance food safety practices across regions and sectors.
- **Emerging Threats from Climate Change:** Develop adaptive strategies to maintain food safety amid climate-related environmental changes.
- **Public Health Alignment:** Align food safety initiatives with public health priorities and consumer expectations to maintain trust.
- **Sustainability and Circular Economy:** Incorporate circular economy principles in food production while addressing related food safety risks.
- **Adaptation to Technological Advancements:** Update safety measures continuously to keep pace with innovations in food production/processing.
- **Capacity Building and Education:** Educate the public, train food chain operators on best practices to prevent contamination and respond effectively.
- **Collaboration among Stakeholders:** Strengthen infrastructures and partnerships to improve resilience and timely responses to food safety incidents.
- **Resilience Against Supply Chain Disruptions:** Enhance risk management, diversify sourcing, and develop rapid-response mechanisms to secure food availability.
- **Digitalization and AI for Food Safety:** Establish ethical AI frameworks and secure data governance to improve risk assessment, traceability, and compliance.

Sharing update Mycotoxins Research & Innovation in the future scenario

The EU Food Safety Forum provides a unique place for experts, policymakers, researchers, and industry leaders to exchange ideas, share knowledge, and set a strategic direction for the evolving landscape of food safety in Europe. It will be a room for participating by boosting the mycotoxin research in a multi-disciplinary context.

Join us in Rome to contribute to this relevant dialogue and help shape the future of food safety in the EU!

