CATALYSE

Relevant Publications and Reports – Oct 2024

PUBLICATIONS
Comprehensive analysis of PFAS presence from environment to plate Agroknow This study analyzes over 150,000 entries from food safety authorities and scientific publications from 2017 onwards. Our findings show that fish & seafood, and biota have the highest PFAS concentrations due to environmental contamination and bioaccumulation
Rapid on-site analysis of soil microplastics using miniaturized NIR spectrometers: Key aspect of instrumental variation Bec Contamination by microplastics, a global environmental concern, demands effective monitoring. While current methods focus on characterizing the smallest particles, their low throughput hinders practical assessment. Miniaturized near-infrared (NIR) spectroscopy offers high-throughput capabilities and rapid on-site analysis, potentially filling this gap.
Antimicrobial resistance: a concise update In this rapidly advancing field, this Review provides a concise update on AMR, encompassing epidemiology, evolution, underlying mechanisms (primarily those related to last-line or newer generation of antibiotics), infection prevention and control measures, access to antibiotics, antimicrobial stewardship, AMR surveillance, and emerging non-antibiotic therapeutic approaches.
Development of an online food safety toolbox based on the Codex Alimentarius General Principles of Food Hygiene: engaging users through mapping, chunking, and learning-by-asking The paper describes designing and developing an online food safety toolbox that aims to elevate the food safety knowledge of food business operators, competent authorities, and trainers.
The changing food allergen landscape in Europe calls for harmonised food allergen monitoring: Position paper This position paper argues for the introduction of harmonised guidelines for food allergen monitoring on the European level based on a discussion of the wide-ranging implications their lacking entails.
Risk it for a biscuit: Food safety behaviours and food insecurity of older adults The current paper aims to identify the characteristics associated with risky food-related practices related to cooking, cleaning, chilling, cross-contamination, and use-by date adherence.

Opportunities and challenges for global food safety in advancing circular policies and practices in agrifood systems

This review provides a synthesis of the current and emerging risks, data gaps, and opportunities for food safety in agrifood initiatives aiming to advance circular economy models.

Effects of Mediterranean diet during pregnancy on the onset of overweight or obesity in the offspring: a randomized trial

The PREMEDI study was designed to assess the efficacy of nutritional counseling aimed at promoting Mediterranean Diet (MD) during pregnancy on the incidence of overweight or obesity at 24 months in the offspring.

Prevalence, Characteristics, and Selection of *Bacillus cereus* Subgroups from Dairy Products for Challenge Testing and Predictive Model Development

Prevalence, toxin gene profiles, lactose fermentation, and growth responses of *B. cereus sensu lato* subgroups in various dairy and dairy alternative products and ingredients were studied to identify relevant isolates for challenge testing and model development to predict and manage growth responses.

Chronic prospective cumulative risk assessment

This Mock assessment is a part of the Framework Partnership Agreement between ANSES andEFSA with the help of RIVM to investigate the feasibility of a tiered approach proposed by EFSAfor prospective chronic cumulative risk assessment (CRA).

Exploring the association between urinary bisphenol A, S, and F levels and semen quality parameters: Findings from Led-Fertyl cross-sectional study

The present study aimed to examine the association between urinary concentrations of BPA, BPF, and BPS and semen quality parameters among 195 adult Spanish men from the Led-Fertyl study cohort using multiple linear regression models adjusted by potential confounding variables.

Time to ACT-UP: Update on precautionary allergen labelling (PAL)

The objective of this paper is to summarise the latest data to inform the application of PAL in a more systematic way, for implementation into global food standards.

Clearing the air: A systematic review of studies on air pollution and childhood brain outcomes to mobilize policy change

The objective of this systematic review was to synthesize available empirical evidence on the associations between air pollution exposure and brain outcomes in developmental samples (ages 0–18 years old).

Rapid single-particle chemical imaging of nanoplastics by SRS microscopy

There remains a fundamental knowledge gap in nanoplastics because of the lack of effective analytical techniques. This study developed a powerful optical imaging technique for rapid analysis of nanoplastics with unprecedented sensitivity and specificity.

Co-funded by the European Union

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Inactivation efficacy of four commercial post-process treatments against *Listeria monocytogenes* and impact on the commercial quality of leafy greens

This study focused on the efficacy of four commercial treatments against Listeria monocytogenes growth and their effect on the organoleptic quality of baby spinach, cut romaine, cut iceberg, and shredded cabbage.

Quantitative tracking of nanoplastics along the food chain from lettuce (*Lactuca sativa*) to snails (*Cantareus aspersus*)

This paper aims to examine and quantify the trophic transfer of europium doped polystyrene nanoplastics (Eu-PS; NPs) within a terrestrial food chain. The uptake of 100 nm spherical Eu-PS particles from water through the roots of the plants to the leaves and finally to garden snails (*Cantareus aspersus*) was assessed.

The full picture of people's realities must be considered to deliver better diets for all

People's realities interact to shape the way people respond to and engage with policies and interventions, thereby influencing their impact, particularly, albeit not only, on dietary inequalities. We propose a tool that brings together key realities that shape impact, including the material, economic and psychosocial realities that people face in their households, families, food environments, social interactions and cultures.

***Listeria monocytogenes* in aquatic food products: Spotlight on epidemiological information, bio-based mitigation strategies and predictive approaches**

A comprehensive analysis of *L. monocytogenes* in aquatic food products (AFPs) was conducted, examining the prevalence of the bacterium, the associated outbreaks, and the resulting deaths.

Development and evaluation of statistical and artificial intelligence approaches with microbial shotgun metagenomics data as an untargeted screening tool for use in food production

The objective of this study was to assess the feasibility of using shotgun sequencing data as input into anomaly detection algorithms using fluid milk as a model system.

Harmonizing *Campylobacter* risk assessments across European countries – can the pooled process hygiene criteria data be used in the Danish risk assessment model?

This study investigated the possibility of harmonizing quantitative microbiological risk assessment (QMRA) for *Campylobacter* spp. across European (EU) countries.

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REPORTS
NovelEntities- A financial time bomb PlanetTracker This paper includes case studies, which outline the importance of novel entities to financial institutions and why, and how, they need to act.
European Union Food Regulatory Guide - Competent Authorities SDS Digicomply The European Union (EU) has established a comprehensive regulatory framework to ensure the highest standards of food safety and public health. This guide provides an in-depth overview of the main regulatory bodies within the EU, detailing their roles, responsibilities, and contributions to maintaining a safe food supply chain.
Ensuring food safety in a circular economy FAO The FAO food safety foresight programme is actively working in this area and released a report, *Food Safety in a Circular Economy,* that provides an analysis of current and emerging evidence on food safety risks in circular food production systems. The report examines in depth four major dimensions of concern – water scarcity, food loss and waste, food packaging waste, and land use efficiency.
Navigating Novel Foods: what EFSA's updated guidance means for safety assessments EFSA The European Commission tasked EFSA with updating the guidance on how to prepare and submit applications to market novel foods in the EU. This update consists of two key documents: the scientific guidance outlines the scientific information applicants must provide, and the administrative guidance clarifies the process for applying, which is handled by our front-desk support team. These updates will apply to all novel food applications submitted to the European Commission starting in February 2025.
Guidance for Industry to Reduce Sodium in Food Products FoodDrinkEurope Historically, salt enabled food storage before refrigeration, inhibiting harmful microorganisms and increasing shelf life. While it still serves these purposes for certain product types, including some refrigerated and frozen products, salt has retained a key function to enhance sensory characteristics and processibility.

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