Press Release
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MICROORC

Reducing food waste with new technology

Horizon Europe Project MICROORC will develop emerging technologies such as dynamic shelf-life labeling and microbiome-based protection technologies to increase food quality, increase shelf life and reduce food waste.

– In MICROORC we will develop sustainable solutions that reduce and prevent food spoilage and food waste, with focus on technologies, services, tools, policies, and practices that are based on monitoring, utilizing, and targeting microbiomes in food and the food processing chain, says senior scientist Solveig Langsrud at Nofima. She leads the project.

Selected R&D areas

Five areas are selected for the potential for predicting and extending shelf-life, reduction in food waste and fostering a sustainable food system:

- Predictive analytics models incorporating microbiome information to predict shelf-life.
- Time-temperature indicators (TTIs), sensoring and smart label solutions for dynamic shelf-life labelling.
- Rapid detection assays for microbial indicators of food spoilage.
- Microbiome based protection technologies to replace synthetic chemicals and increase shelf life and safety
- Novel packaging solutions targeting spoilage for sustainable development and increased shelf-life.

Chicken, salmon and plant-based meat analogue

MICROORC will support the transition to more sustainable and healthy food systems by considering raw chicken and salmon as well as plant-based meat analogues. To guide and demonstrate the industrial, social, and economic relevance of the MICROORC innovations, the project will evaluate consumer acceptance and the environmental sustainability aspects of all stages of the product life cycle, identify and help resolve legislative and regulatory challenges to implementation of new technologies, and propose a novel policy framework for microbiome control in the food system.

MICROORC aligns with the impacts described in the Destination - Fair, healthy and environment-friendly food systems from primary production to consumption, which states that the proposals should set out a credible pathway for contribution to “fair, healthy, safe, climate- and environmentally friendly, sustainable and

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resilient food systems from primary production to consumption, ensuring food and nutrition security for all within planetary boundaries in Europe and across the world" and in agreement with UN sustainability goals 2 (zero hunger), 3 (good health and well-being), 12 (responsible consumption and production) and 13 (climate action). MICROORC technologies and scientific discoveries, combined with increasing public awareness and demand for sustainable food, will contribute to a fair, healthy, and environmentally friendly food system, supporting the European Green Deal.

Facts about the project

MICROORC - Orchestrating Food System Microbiomes to Minimize Food Waste, started on November 1st, 2023, funded by the European Union's Horizon Europe research and innovation program under Grant Agreement N° 101136248.

The tools and technologies developed in MICROORC are positioned at a high level of research and innovation (R&I) maturity and are expected to achieve TRL6-7 by the end of the project.

A multinational, multi-actor and trans-disciplinary consortium including cutting-edge companies and experienced research institutions has been established to develop and pilot tools, technologies and guidelines that utilize and control microbiomes for fighting food waste to ensure transition to more sustainable food production and consumption. The MICROORC consortium is organized into seven work packages, designed to address the project specific objectives.

On December 5-6, 2023, the collaborative efforts of 18 leading partners representing diverse industries, research and development, and technology sectors across 9 EU countries converged in Oslo, Norway, for the MICROORC kick-off meeting. Throughout the gathering, hosted by NOFIMA – the project coordinator - each partner meticulously presented their designated responsibilities within the respective work packages, aligning with the overarching project objectives. The discussions not only showcased the immediate tasks but also provided valuable insights into forthcoming steps and planned strategic actions. The discussion also

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focused on the cross-work package actions and synergies. After the fruitful discussion, the consortium also got together for a social dinner, which was cooked by the partners.

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