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Keywords

Agroecological transition,
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microbial transfers,
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interdisciplinarity

INRAE unit

UMRF
MEDIS
LEB
OPAALÉ
Agroecology
UREP
Herbivores
Herbipôle
MaIAGE
Innovation

Partners

RMT Fromages de Terroirs
GIS Filières fromagères
sous IG

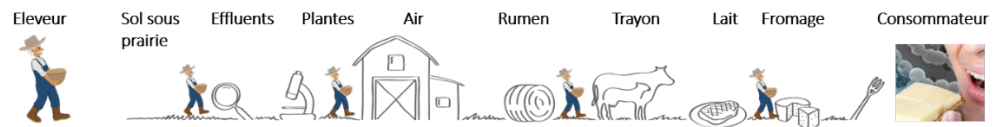


TANDEM

Microbial flows at the heart of the agroecological transition of dairy systems

The TANDEM project aims to gain a better understanding of how microorganisms in the dairy food chain are transmitted along the chain and how these ecosystems respond to changes that come with an agroecological transition.

In a context of climate change, agroecological practices offer possible solutions to enhance the sustainability and resilience of food systems. These practices are particularly important for farms producing raw milk cheeses, which are influenced by a wide range of holobionts and environmental microbiota, from forage to the final product ingested by the consumer.



Objectives

- Compare agro-ecological and intensive farming systems and study their responses to disturbances.
- Re-evaluate the knowledge of microbial transfers in a field context and with regard to the diversity of connections between humans and microbes in the dairy system.
- The originality of the project lies in:
- The advanced characterisation of microbial transfers for an integrative and functional approach of the whole microbiota at intraspecific scales.
- The identification of microbial indicators along the food chain to assess the impact of changes in practices.
- The deployment of new concepts associated with the contribution of living organisms in these systems.

TANDEM offers new perspectives to better manage transitions in food systems, thus contributing to the three pillars of sustainability (social, economic, environmental) and to global health.



Partners

TANDEM brings together an interdisciplinary consortium combining agronomy, ecology, microbiology, animal and food sciences, bioinformatics, biostatistics and sociology, and involving key players in the cheese industry.

INRAE division	INRAE unit	Expertise
MICA Microbiology and the Food Chain	UMRF	Microbial ecology, milk, cheese
	MEDIS	Microbial ecology, digestive microbiota
	LBE	Microbial ecology, air
TRANSFORM Science for Food, Bioproducts and Waste Engineering	OPAAL	Microbial ecology, effluents
AGROECOSYSTEMS Agronomy and Environmental Sciences for Agroecosystems	Agroecology	Microbial ecology, soil
ECODIV Ecology and Biodiversity	UREP	Microbial ecology, grasslands
PHASE Animal Physiology and Livestock Systems	Herbivores	Zootechnics, dairy farming
	Herbipôle	Zootechnics
MATHNUM Mathematics and Digital Technologies	MalAGE	Bioinformatics, biostatistics, metagenomics
ACT Sciences for Action and Transition	Innovation	Sociology, anthropology
	Territory	Sociology, anthropology
Partner	Expertise	
RMT Fromages de Terroirs (France)	R&D networks, dairy and cheese microbiology	
GIS Filières fromagères sous IG (France)	R&D networks, PDO-IGP cheeses, production systems	

