



NetEggToMeat

Consortium
2022–2023



Developing an interdisciplinary project to characterize the impact of production parameters on the microbiomes and quality of broiler chickens

Coordinators

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Keywords

Broiler chicken, livestock farming conditions, sanitary quality, microbial transfers

Participating INRAE units

BOA

EASM

ISP

MaIAGE

MICALIS

PEAT

SECALIM

Partner

ITAVI (France)

The consortium's objective is to develop an ambitious, multidisciplinary project to explore the drivers in the broiler production chain that can be used to keep animals healthy and promote the sanitary quality of the end products to ensure consumer health. This project will be developed around several hypotheses and an experimental design to confirm or refute them.

To tackle such ambitious, complex research questions, the experimental framework must consider or answer the following questions: Is it technically possible to study cohorts (eggs, chicks, chickens, carcasses) in production chains, or is it preferable to use only our experimental stations, which can be controlled but which do not always reflect real-world conditions? Which zootechnical parameters should be monitored? Industry professionals will need to be consulted at an early stage to make the right decisions. The relevance of the livestock systems to be studied will also have to be assessed.

This type of project could be submitted under Theme A.4. Food and Food Systems of the French National Research Agency's (ANR) Generic Call for Proposals (AAPG) as a collaborative research project between public entities in a national context (PRC) or in a bilateral international context (PRCE). However, there are other options to consider in order to maximize the chances of success. For example, bringing on new staff (master's and doctoral students, postdoctoral candidates and personnel on fixed-term contracts) will be an option to consider, as will the amount of funding available and the type of partners funded.

Funding from the Technical Institutes and CASDAR funds could also be considered.

Objectives

The consortium aims to develop a research project based on the theory that the microbiota of broiler chickens can be modulated to guarantee sanitary quality and health throughout the production chain (from chick hatching to butchering).

The project will draw from the findings of the EggToMeat exploratory project, which studied the effect of the production method (outdoor access or not) on microbial transfers from the eggshell to the carcass.

If the results show an impact on the microbiota, the future project will study its potential for ensuring quality, health and welfare in livestock farming. The future project could also look at other production parameters, particularly in the early stages of animal development. The consortium will determine the hypotheses to be tested, the experimental approach, the subsequent results, the future partners, the coordinator and the contact point for ad hoc reports.

Partners

INRAE unit	Expertise	INRAE division
BOA	Poultry farming systems and meat quality	PHASE
EASM	Livestock system; nutrition; health	PHASE
ISP	Microbiota and antibiotic resistance; biobank	MICA
MalAGE	Bioinformatics; biostatistics	MATHNUM
MICALIS	Microbiota and pathobionts; <i>Enterococcus</i>	MICA
PEAT	Aviculture	/
SECALIM	Microbiota of meat products; <i>Campylobacter</i> and microbiota	MICA
Partner	Expertise	
ITAVI (France)	Livestock farming	