

code: re-farm

Consumer-driven demands to reframe farming systems' Code: Re-farm project aims to evaluate the relationship between different husbandry systems with the quality of goat and poultry products

Newsletter N° 1 – May 2022













The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101000216



Code: re-farm (Consumer-driven demands to reframe farming systems) is a project funded by the European Union's H2020 program in frame with the call H2020-FNR-2020-2: Husbandry for quality and sustainability (contract n° 101000216).



✓ Develop poultry and goat production systems with the overall goal of understanding the links between husbandry systems and intrinsic quality of animal products. Conventional and novel technologies will be exploited for assessing the intrinsic quality of products along the value chain (Product Lifecycle Monitoring), from farm to fork.



- ✓ Understand the relationship between intrinsic quality & husbandry in goat & poultry production systems
- ✓ Study future challenges of goat and poultry industry and suggest relevant modifications and alternative business models & ecosystem management practices. Increase the added value of products
- ✓ Develop novel Tools/Methods for product quality assessments along the value chain, as well as for animal behavior, health and stress analysis
- ✓ Develop a product intelligent analytics platform for quality monitoring and management of goat and poultry products.





- ✓ Set-up the pilots and study protocol;
- ✓ Assess milk yield (goats) and eggs & meat quantity (poultry);
- ✓ Evaluate the intrinsic quality of the derived products along the value chain;
- ✓ Develop a Product INtelligent Analytics PLatform (PINAPL) for quality monitoring and management of goat and poultry products;
- \checkmark Develop new business models (especially for ELPS) that fit sustainable, consumer-demandcompatible business, including reframing of value chains & ecosystem management systems.



During this period the consortium has been working on setup for the 9 pilot sites/farms participating project. Two of them are located in Greece, in the Attika region (intensive farm - AGRO) and in the Skopelos island (extensive farm - SKOPELOS), the other two in Switzerland and Italy comprise Alpine breed goats, the intensive farming pilot is located in Ariano Irpino (SAAV), the extensive farming pilot in the canton of Vaud, in Switzerland (CAPRILAIT a modern goat farm) (**Figure 1 and Figure 2**). The poultry pilot sites for all lines (broilers, egg laying hens, dual purpose production lines; intensive and extensive) are located in the Dutch Food Valley Region (Province Gelderland) and in the Province Flevoland and consist of AERES test facilities as well as on farms in the same regions (**Figure 3 and Figure 4**).



Figure 1: Extensive farming of "Skopelos" goats



Figure 2: Intensive farming (AGRO)



Figure 3: Intensive poultry system

The consortium developed a conceptual design of the overall architecture of the software platform **PINAPL**. The presented architecture will serve as the basis and will be further refined as the project progresses (**Figure 5**).



Figure 4: Extensive poultry system

Gast Stat Assignm Gast Stat Assignm Factor Andream City, Status, Status	Inputs	Mastitis symptom Detection tool (MSDT) (BioSense)	Mcrobiota Profile Tool [REM]	Mid-IR Measuring Tools [QRT]	Heterodyne Phase Sensitive Dispersion Spectroscopy (HPSDS) [TUTW]	Laser Heterodyne Radiometer (LHR) [UC3M]	Vision-based BCS [ICCS]	TrackLab [NOLDUS]	FRET-based Device for Eggs Analysis (FRETEA) [CyRC, CNR]	Disease Detection Tool based on Deep Learning (D07DL) (UCPH)	Heterodyne Phase Sensitive Dispersion Spectroscopy (HPSDS) [TUW]	TrackLal (NOLDU)
Martin Martin<			Goat Milk Analyze	ers	Goat Gas /	inalyzers	Goat behaviou	r Analyzers		Poul	try Analyzers	
Washing Regulation Difference face Proceeding Proceding Proceding Procedi						work;	Lameneos)	kell	disease indicator; Animal bibaviour; CH4, CO3, NH3 values			
(40) (500)	Third	E-party Data 🔵 —		faterial data — N					Decision Fusion	Data Expessed User Regulation	► Consumer App	
Product Intelligent Analytics Platform (PINAPL)	W	eather Regulatory	Other									
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And Conversion State Party France France Party P	W	eather. Regulatory	Other	datures	WA Granning/	Product 8	neligent Analytics Patro	m (FOLAFL)	DEECH)	Product Quality, Traceability &		

Figure 5: PINAPL Architecture



Consortium meetings

✓ Kick-off meeting

Code: re-farm, mEATquality, Pathways and INTAQT

In February, Code: re-farm project was presented in the kickoff meeting of affiliated project mEATquality.

The 11th March 2021. the coordinators of Code: re-farm, mEATquality, Pathways and INTAQT (all projects from the same Call) met to discuss commonalities, potential synergies and overlaps between the 4 projects.





Figure 6: mEATquality kick off

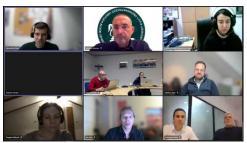


Figure 7: Code: re-farm 6M meeting



The **Code:** re-farm 6M project meeting was organized by CyRIC took place remotely, due to the COVID-19 outbreak restriction, on the 14th December 2021. The focus of the discussion was: to start work on the new tools and platform and study protocol for pilots and for business models. A roadmap for the next six months was drafted.



✓ Planned meeting





The next meeting Code: re-farm Project (12M), is scheduled on 9-10th June 2022 in Barneveld, Netherlands



Dissemination Activities

✓ First Code: re-farm press release

PRESS RELEASE

Date: 24/5/2021

Code: Re-farm – Reframing farming systems for quality and sustainability

On one hand, intensive livestock production systems (ILPS) are growing fast to satisfy the increasing demand. However, there is public scepticism about intensification in livestock production driven primarily by adverse links to environmental aspects and sustainable utilization of natural resources. Moreover, ILPS are perceived as being detrimental to animal health & welfare and may potentially undermine the quality of derived products. On the other hand, <u>extensive livestock production systems</u> are low-input systems which are critical to support the development of rural communities. However, economic sustainability of such systems is often questioned as they are challenged by natural resource limitations, adverse climatic conditions and diseases. Products from extensive systems are considered of superior quality, but their resource-limited environment undermines their safety.

Code: re-farm in Smart Farming Conference



Code: re-farm in the clustering meeting on livestock projects

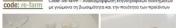


✓ Code: re-farm's social media accounts

First Code: re-farm Leafleat



Article





The project has received funding from the 8 under grant agreement No 101000236

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 https://coderefarm.eu/

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Consortium

