Newsletter

JANUARY 2023

code: re-farm

MAIN UPDATES

- Study Protocol
- Consumer Mobile App
- PINAPL v1
- Tools and methods v1
- Scientific papers under review

- Completed sampling for goat pilots
- Initiated sampling for poultry pilots
- Presence in conferences and expos

Progress up to date

• Study protocol

Samples collection   **Samples analysis**   **Welfare and Health assessment**

The final study protocol is published and it provides useful guidelines to be used for both the goats and the poultry pilots. The protocol describes aspects of the sample groups' selection criteria, the analysis per group with information on who will be performing the analyses while addressing potential particularities in the treatment of samples. Additionally, the protocol includes the procedures to be followed for animal health and welfare assessments and guidelines to the set up of the taste panels. Finally, it provides guidelines as to the installation and use of the novel tool and methods in each of the pilot settings. The study protocol will be published once approved by the EU https://cordis.europa.eu/project/id/101000216/results .

• Consumer App

During this period the Consortium worked on the development of the Consumer App. The first version of the Mobile App, the storyboard and main functionalities are released. The *Nutriscore* is added in the App as it will be a mandatory requirement for such tools starting in 2023 all over the EU.

https://www.youtube.com/watchv=Gm9TnrXWbXY&t=29s

• PINAPL

PINAPL: the Code:Re-farm's Product Intelligent Analytics Platform. As a data analytics web platform it is developed to to monitor in real time insights about the project's measurements. The first version of the platform including the Husbandry Information Fusion Engine (HIFE) module was released and is constantly updated to include feedback inclusion. The current developed version includes three different roles for farmers, analysts and administrators. At a later stage the PINAPL will also include alerts, notifications and recommendations of the decision support system which will include a semi-empirical recommendation engine (SEREN) use to issue recommendations to enable decision making by the end-users.
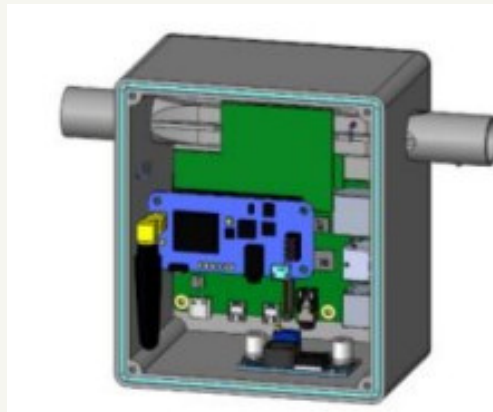
• Novel tools

A set of novel tools and methods are developed within Code:Re-farm, to perform product quality assessments along the value chain, as well as for automated animal behaviour, stress and health analysis. In total, in the project there will be 9 novel tools developed and the progress up to date is shown in the pictures below.

Egg analysis device

Subclinical mastitis tool

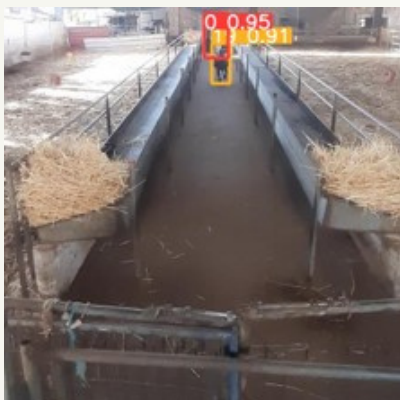**Gas monitoring tool & gas dispersion spectroscopic method**

Milk composition analysis tool

- Portable instrument for milk composition analysis
- Portable FRET-based device for egg analysis
- Bench-top and hand-held instrument for detection of subclinical mastitis in goats
- Gas monitoring tool and molecular dispersion spectroscopic method
- Direct measurement of enteric methane in ruminants tool
- AI-based method for assessing animal health, welfare and behavior
- Audio signal modelling & analysis for early disease detection
- Machine learning techniques for time series modelling and analysis of fused multimodal data

TrackLab- ML techniques

Enteric methane measurement tool

AI-based methods

Audio signal modelling

Meetings

M12 PROJECT MEETING

The Code: re-farm project 12M Meeting was organized by AERES in Barneveld, Netherlands on the 9th-10th June 2022. All partner organizations attended the meeting. During the two-days meeting the Consortium discussed the main technical and open issues.

M18 PROJECT MEETING

The Code: re-farm 18M Project Meeting was organized by CNR and it took place on the 8th-9th November 2022 in Rome, Italy. The focus of the discussion was on the updates of the study protocols for pilots, sampling procedures and technical issues. A roadmap for the next six months was drafted.

Publications

Find all our shareable presentations and conference proceedings
- https://cordis.europa.eu/project/id/101000216/results

Check out our Zenodo community for all our open access publications
- https://zenodo.org/communities/code-re-farm/

Upcoming events

- 10th International Sheep Veterinary Congress (ISVC) https://isvc2023.com/ Seville, Spain, *6th-10th March 2023*.
- British Association of Animal Science Conference (BSAS) https://bsas.org.uk/conference-2023/ Birmingham, UK, *28th-30th March 2023*
- EAAP Meeting and Congress https://eaap2023.org/ , Lyon, France *26th August-1st September 2023*

NEXT CONSORTIUM MEETING

GREECE

MAY 2023

CONSORTIUM