

***PhenoFinlait*: French research program for adaptative fine milk composition**

F. Faucon^{1,2}, *PhenoFinlait* consortium^{1,2,3,4,5,6,7,8}

¹*Institut de l'Élevage, France*; ²*CNIEL, France*;
³*INRA*; ⁴*Actilait*; ⁵*FCEL*; ⁶*CNBL*; ⁷*UNCEIA*; ⁸*Capgène*.

felicie.faucon@inst-elevage.asso.fr

Determination of fine milk composition (proteins and fatty acids, FA) is of major importance with regard to nutritional added value of milk, feeding strategies and animal health that impact milk production and price. For example, $\omega 6/\omega 3$ ratio in milk is of high interest for consumers' health. Nevertheless, we don't have, in France, cheap and quick methods to analyze fine milk composition and reference database to determine genetic and feeding factors impacting this composition. Then different scientific and economic stakeholders, from milk production to milk processing formed the consortium called *PhenoFinlait* in order to carry out a R&D project on fine milk composition. The aim of this project is to develop a cheap and large scale phenotyping system for individual milk components (FA and proteins) and to apply this procedure on a specific design in commercial farms allowing an analysis of the genetic, the environmental factors (feeding strategy) and their interactions, involved in milk composition. At the end, we will develop dairy farm advice that combines genetic and feeding strategies to improve herd management (sustainability) and to adapt the fine milk composition to the evolving consumer demand in order to give to dairy industry the opportunity to maintain its competitiveness.

This program receives financial support from ANR, Apis-Gène, CASDAR, CNIEL, FranceAgriMer, France Génétique Elevage and Ministry of Agriculture.