

Résumé pour l'EAAP 2010 – Programme PhénoFinlait

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PhenoFinLait: French national program for high scale phenotyping and genotyping related to fine composition of ruminant milk

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Thanks to genomic selection, it is possible to evaluate a sire, at birth, on different criteria such as milk yield, fat content... Nowadays dairy factories become more concerned by the nutritional quality of milk products mostly reflected in the fine composition of milk for fat and protein (individual protein (IP) and fatty acid (FA)). Some of these new criteria are already considered by some dairies in paying milk to farmers. In this context, all scientific and economic stakeholders, from milk production to milk processing have formed the *PhenoFinlait* consortium to carry out a R&D phenotyping project on fine milk composition. The aim is to develop a cheap and large scale phenotyping system for individual milk components (FA and IP) and apply this procedure in commercial farms allowing the analysis of genetic and environmental factors (feeding) involved in milk composition.

First results were the development of calibration equations to estimate FA content by Mid Infra-Red (MIR) spectrometry. A reference method for IP identification and quantification has been chosen. Collection of milk and blood samples (for MIR analysis and DNA mapping) and data record on animal feeding is ongoing on 20 000 cows, ewes and goats located in 1500 farms with different herd management systems.

Large scale genotyping will complement the design of this ambitious project aimed to provide new interlinked tools for selection and farm management to quickly react to human nutrition demand for the benefit of the dairy industry and consumers.

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