



UNIVERSITÀ DI PARMA



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Short Summary of the talk (max. 300 words)

**Title: Importance of raw milk lactic acid bacteria for cheesemaking: a new approach for their detection**

Parmigiano Reggiano (PR) is a raw-milk, cooked, long-ripened cheese and one of the most famous Italian Protected Designation of Origin (PDO) cheese. The quality of raw milk used, directly links the product to its territory representing the basis of its final, unique characteristics. Upon arrival to the cheese factory, milk is currently paid according to quality parameters, among which the total microbial load, where high values indicate a low quality of the milk. However, this method does not take into consideration the biodiversity and the presence of specific lactic acid bacteria (LAB), which should represent an added value for milk quality.

Through the project Farm4PR, granted by MIPAAF, Italian Ministry of Agriculture, Forestry and Tourism, we want to propose a novel milk payment system, which is no longer based on the classic definition of milk microbiological quality, considered so far as total bacterial count. In a time when the word of microbiology is searching for even more rapid methods with fast and reliable results, and thus is moving ever closer to molecular biology, we want to propose a new phenotypic approach, which maintain a foot in the past but with an eye to the future.

Our foot in the past lies in using impedance analysis, that is based on a principle that dates back on '70s, by which, the growth of bacteria in a culture medium produce, as end-products of their metabolism, charged molecules, that cause an impedance variation of the medium. This variation, is proportional to the change in the metabolism and number of bacteria, makes possible the measure of their presence.

We believe that this new approach could give the due importance to the autochthonous raw milk microbiota relevant for PR production.

The three most important milestones in my scientific career:

1. 2018: Ph.D. thesis on the study of different features of lactic acid bacteria
2. 2019: Being part of the scientific team of the project Evaluation of pretechnological and microbiological characteristics of low-temperature centrifuged milk
3. 2020 Being part of the scientific team of the project Farm4PR, granted by MIPAAF, Italian Ministry of Agriculture, Forestry and Tourism

I'm looking forward to the scientific conference on raw milk products because... I think that sharing different works and ideas can stimulate an interesting discussion about the importance of the role of lactic acid bacteria in raw milk and therefore on raw milk products...