

**Report for the PIP Conference call
June 5th, 2017.
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Project: “Validation of safety control measures and pathogen reduction steps for the safe production of traditional artisanal dairy products from the Mesoamerican region.”

Partial report: From January 1st to May 31st, 2017.

Metrics:

-3 undergraduate students from the Department of Food Science at the University of Costa Rica have officially started their graduation research projects. Each student is evaluating one product including a dry salted cheese “queso Bagaces”, a soft cheese subjected to a mild acidification and a heat treatment similar than mozzarella “queso palmito”, and a fermented dairy beverage “Leche agria”.

-More than 15 small processors (all of them from rural areas for example Turrialba, Los Chiles, Golfito, San Carlos) have been visited so far to evaluate the application of Good Manufacturing Practices and to collect all the information regarding the formulation and processing conditions from the selected traditional products since this information is not available in the literature due to the artisanal nature of the products. All processor involved in the project will receive a visit to discuss a formal report indicating the recommendations to solve the issues detected in regards of Good Manufacturing Practices compliance.

-A checklist has been designed to evaluate the compliance of Good Manufacturing Practices, according to local regulations, and customize to dairy processors. This tool will be available to the public so it can be used for educational or extension purposes in the region.

-The critical factors to control, in order to ensure the safety of each product, have been identified.

-Samples have been collected, from each of the processors involved, to determine the physicochemical properties of the products and the presence of *Listeria monocytogenes*. So far, *Listeria* has not been detected in any of the samples analyzed.

-Samples from the fermented beverage has been collected, at least from three different batches, to determine the presence of generic *E. coli*, *Salmonella enterica*,

and *Listeria monocytogenes*. Most of the samples had more the 3 MPN/g of generic *E. coli* thus recommendations have been provided to avoid this issue. These recommendations will be included in a technical guideline that will be available to the public at the end of the project.

-The standard formulation and processing conditions, to elaborate each of the selected products, have been established. This information will be used for research purposes but it will also be available to producers as a technical guideline.

-The objectives that will be perform in the second semester of 2017 and in 2018 correspond to.

- 1- Obtain scientific evidence to assess the efficacy of the current practices followed by artisans to produce highly consumed traditional dairy products in Mesoamerica.
Preliminary trails have been already performed to establish the methodology.
- 2- Generate education materials, in Spanish, to provide training and technical assistance to artisan producers of dairy products in Mesoamerica. Technical recommendations (formulations and processing conditions) to safely produce highly consumed traditional Mesoamerican dairy products will be included.
- 3- Education materials will be develop, in Spanish, to educate consumers about the importance of consuming dairy products manufactured from pasteurized milk and how to handle the product at home to avoid food safety issues.