



MilkQua



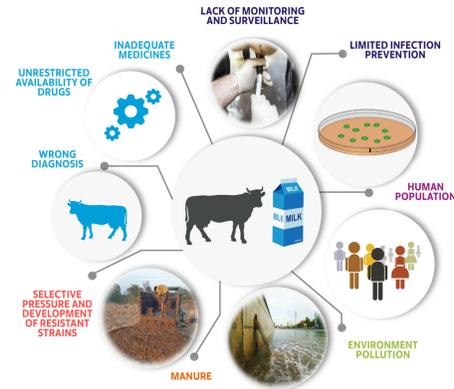
Milk Quality along the Dairy Chain for a Safe and Sustainable milk

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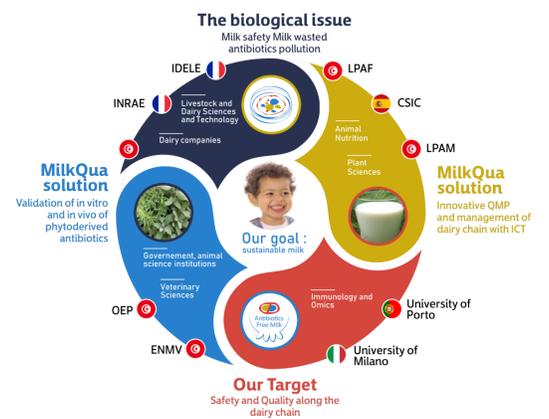
CONTEXT

Milk safety and quality are critical issues for human health and welfare. MILKQUA is a cross-multidisciplinary project engaging five EU partners from four countries (France, Italy, Spain and Portugal) that will team with five Tunisian partners representing research, development, extension and farmers. It aims at enhancing milk and dairy food quality and safety and decreasing milk - associated health hazards, by reducing the use of conventional antimicrobial products in Tunisian farms to align with the concept of One Health.



OBJECTIVES AND AMBITION

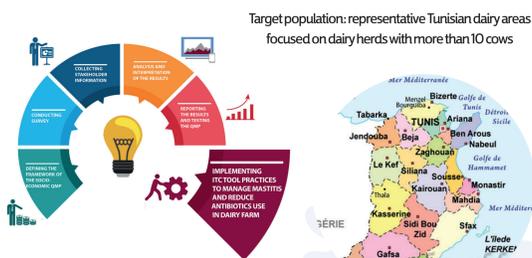
- To set up an extension-based national milk program (QMP) in order to reduce the incidence of mastitis and the consequent use of antibiotics in Tunisia,
- To explore the potential use of essential oils (EOs) and plant extracts with antibacterial activities in diets of dairy cattle,
- To decrease the burden of mastitis, to increase feed efficiency, to improve animal welfare and the sustainability of the milk production system,
- To improve milk quality including the shelf life of dairy products,
- To enhance the role of Tunisian dairy producers as providers of sustainable food supplied to consumers.



APPROACHES AND TOOLS

WP 1 (leader: Idele) - Coordination

WP 2 (leader: Idele) Innovation QMP and ITC tools



Objectives

1. Assessment of mastitis occurrences
2. Social determinants of milk quality
3. Economic determinants of milk quality
4. Recommending for an IT platform to support changing in farmer practices to improve milk quality

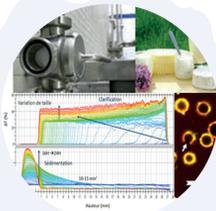
WP 4 (leader: CSIC) In vivo studies

- Feeding trials**
- EOS Birth: Feed efficiency and health (12 M) - CTRL vs DOHaD group
 - EOS/MP Birth: Feed efficiency and health (12 M) - CTRL vs EO group
- Management of mastitis**
- Under controlled conditions (Pathogens, SCC)
 - Large scale study (Pathogens, SCC) - 4 experimental groups (CTRL, EO, Antibiotic, EO+Antibiotic)

Objectives

To determine feed efficiency and health status of dairy cattle being fed Eos, Eos as a curative solution when applied directly in the udder with mastitis.

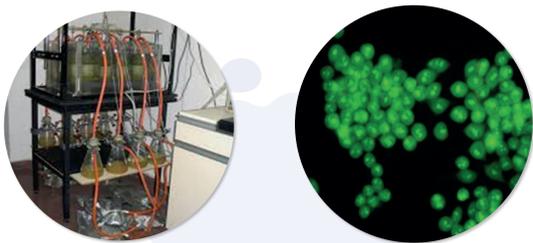
WP 6 (leader: INRAE, STLO) Milk Processing



Objectives

1. To determine the impact of EOs on milk quality and processed products
2. Use encapsulation strategies to improve milk and processed products quality, stability
3. Comparative efficiency as antibacterial

WP 3 (leader: UPFF) In vitro studies



Objectives

- To know the profile of digested samples.
- To evaluate the beneficial properties of EOs in human cells.

WP 5 (leader: UMIL) System Biology assessment



Objectives

To use OMICS to study microbiome and determine the changes of host immune response of milk and plasma.

WP 7 (leader: LPAM) Milk Processing

- Electronic survey questionnaire with questions in Open Ended Format and Questions in Closed Ended Format (questionnaire 1).
- Satisfaction questionnaire in paper format (questionnaire 2).
- Administration of the questionnaire, data collection and analysis.



Objectives

To access knowledge attitude and practice (KAP survey) of Tunisian consumers toward milk and dairy products.



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