



MilkQua

<http://www.milkqua.eu>

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

Section 2. Multi-topic-2018

Topic of the call:

1.3.2: Food Safety in Local Chains

Steering Committee Sept. 27-28th, 2021 *WP2: Innovative QMP practices in Tunisia*

**WP Leader: *Philippe Roussel, Bénédicte FUSAI,
Idele***

Partners involved: Idele, ENMV, OEP, Delice Danone

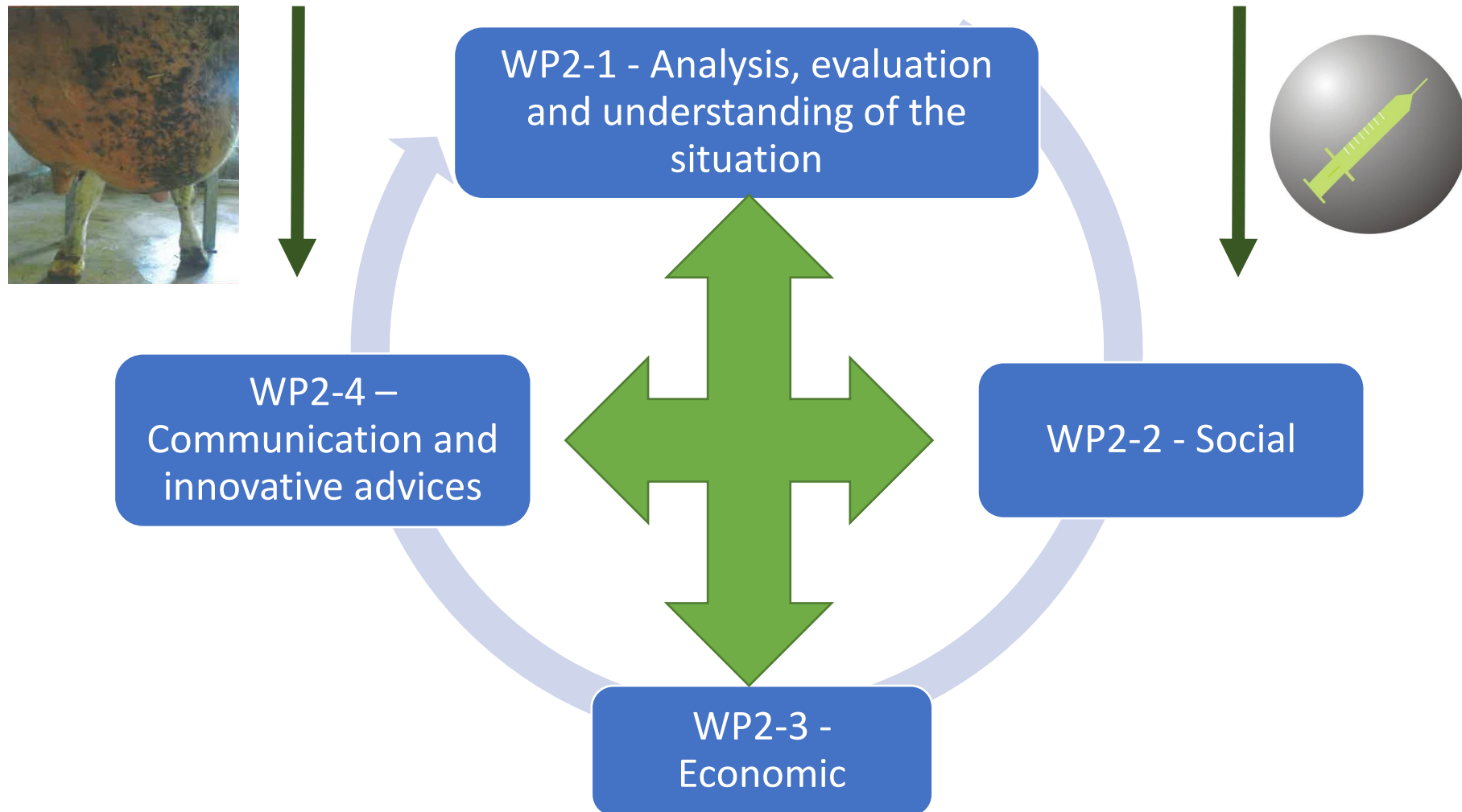


The PRIMA programme is supported under Horizon 2020, the European Union's Framework Programme for Research and Innovation



- 💧 Helping producers to prevent, monitor and reduce food safety risks in their farms and companies by designing and implementing an on-farm **food safety program, the Quality Milk Program (QMP)**.
- 💧 **Reducing the use of antibiotics and antibiotic-resistance** for cattle and consumers and improve animal yield by implementing an innovative phytochemicals-based anti-microbial approach and prevention in dairy farms.
- 💧 Improving daily handling practices by implementing an **educational program and the use of Information and Communication Technology (ICT)**, providing farmers with customizable tools as a sustainable resource of reducing mastitis and improving antimicrobial stewardship for dairy stakeholders that will enhance food security and viability of rural communities.

4 work areas



- 💧 **D2.1 – Evaluation report and epidemiology of mastitis in the Tunisian dairy herds (OEP-M24):** *delayed (due to April 2021, postponed to XXX)*
- 💧 **D2.2 – Report on recommendations for the support of dairy producers and the mobilization of the stakeholders to improve the milk quality and the rationalization of the use of antibiotics in the Tunisian dairy herds (Idele-M24) :** *delayed (due to April 2021, postponed to XXX)*
- 💧 **D2.3 – Reflection with the all actors of the Tunisian dairy sector on the introduction of parameters (presence of antibiotics and BMSCC = bulk milk somatic cell counts) in the payment grid (Idele-M30) :** *on-going/submitted/delayed (due to October 2021)*

- 💧 **D2.4- Realization of guidelines of every educational module (Idele – M34) : *on-going(due to February 2022)***
- 💧 **D2.5- Development of a communication and training plan for the Tunisian dairy farmers through the use of ICT (SMS, mail, website, networking) (OEP/Veterinary partners – M34) : *on-going (due to February 2022)***



Initial Work Schedule

	2019						2020						2021					
	M1-M2	M3-M4	M5-M6	M7-M8	M9-M10	M11-M12	M13-M14	M15-M16	M17-M18	M19-M20	M21-M22	M23-M24	M25-M26	M27-M28	M29-M30	M31-M32	M.33-M34	M35-M36
W2-1																		
W2-2																		
W2-3																		
W2-4																		

Stop of the missions and of the field work in Tunisia due to COVID 19

WP2 - Innovative QMP practices in Tunisia

Statuts of tasks: actions achieved so
far, next steps, needs



MilkQua

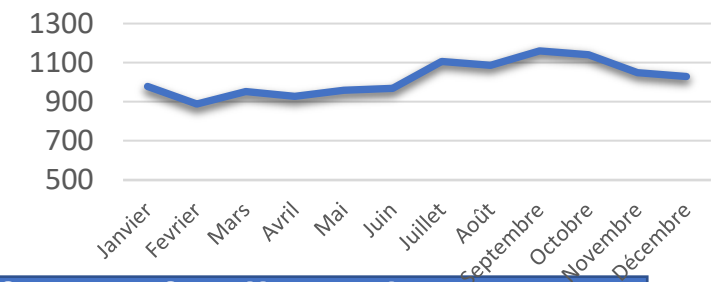
Assessment of mastitis occurrence in Tunisian dairy herds

Subtask 2.1.1 : Data base analysis

Analysis of Bulk Milk Somatic Cell counts and the individual cow somatic cell counts from national, regional Tunisian database (**OEP**) : from 2008 to 2018 : **DONE!**

The conclusions we presented in the last Steering Committee (for memory) :

- * An unfavorable evolution of the herd cell concentrations since 2012
- * Herd cell concentrations influenced by the region/governorate
- * Big size herd (> 20 Dairy cows) have best results before 2016
- * A first lactation rate around 28%, with little variation depending on the year
- * Dry-off indicators can highly be improved as drying period doesn't allow to cure enough infected cows nor avoid many new infections during this period
- * A herd cell concentration which fluctuates through the year:
2 periods : February to June: between 900 000 and 1 000 000
 July to December: > 1 000 000



So a very significant shortfall for the Tunisian dairy sector : average loss of 15% of milk production in Tunisian dairy herds

Assessment of mastitis occurrence in Tunisian dairy herds

Subtask 2.1.1 : Data base analysis

- **Analysis of presence of antibiotics in milk in the governorate of Beja : from 2018 to mid-2020 :
DONE!**
-> Results not validated by Tunisian partners
- **Analysis of the Prevalence (%) of the bacteria isolated from clinical mastitis by ENMV (2010-2019)**
-> results presented at the last steering committee

Assessment of mastitis occurrence in Tunisian dairy herds

Action plan to consider for lasting improvement:

- Important progress possibilities
- In order to improve the situation:
 - * Training of fields technicians and breeders to develop plan in dairy farms
 - * Set up in dairy farms :
 - technical to get a correct hygiene in the udder preparation before milking
 - control and adjustment of the milking machine
 - systemic teat disinfection after milking
 - reasonable treatments at dry-off
 - culls of permanently infected cows
 - targeted treatments of clinical cases in lactation

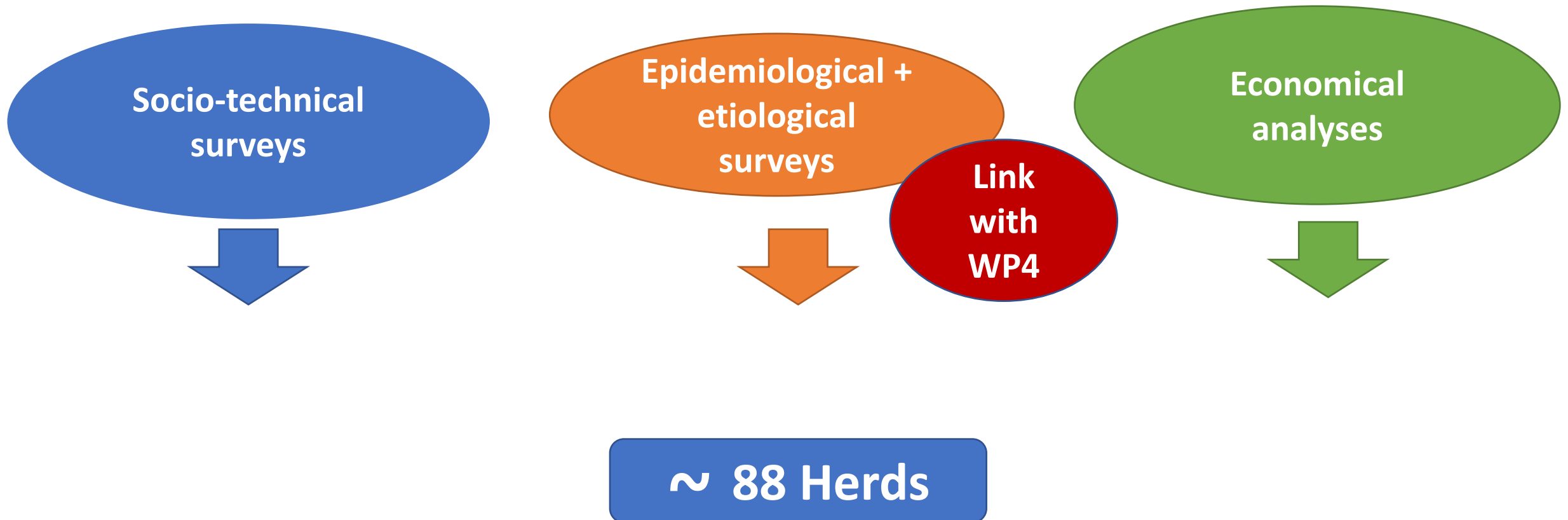
Social determinants of milk quality

Subtask 2.1.2 : Epidemiological study by survey and data collect in herd

subtask 2.2.1 : semi-directive interviews with dairy producers and livestock advisors in order to identify the major causes of mastitis, including practices, believes or milk quality

subtask 2.2.2 : semi-directive interviews with dairy producers and technical and veterinary staff and advisors in order to identify the path of changes towards less antibiotics use in the farms

Analysis, evaluation and understanding of the situation



Communication practices and tools

Aims of this task : to prove that it is possible :

- to change the breeders' practices in order to improve the hygienic quality of milk
- to minimize the use of antibiotics in dairy farms by using new information and communication technologies.

For the moment : direct technicians' advice to breeders is expensive and limited

Issue : **how to optimize the costs and better spread advices**

Subtasks:

2.4.1 : surveys to find the best and most appropriate tools that can serve as a support to make changes and promote good practices

2.4.2 : develop the concept of an information system : overall description to be discuss in a workshop

2.4.3 : testing the concept of the information system through a pilot implementation

2.4.4 : evaluation of the pilot

Communication practices and tools

💧 Proposal of 3 actions

- 💧 **A Training for veterinarians and technicians** on "controlling the quality of milk" scheduled over 3 days, with following objectives :
 - To understand the issues in terms of milk and dairy products quality.
 - To update knowledge on mastitis and good hygiene practices around animals and milking
 - To show the tools in order to reason mastitis prevention measures on the farm.
 - > with a visit on a farm and discussion about messages
- 💧 Information dissemination to the breeders on the good use of antibiotics on farm by sending sms
- 💧 Specific description of the method, the sms to be sent, the protocol to follow, and the system to be implemented in the future

Communication practices and tools : messages

- 💧 The **subject** : good use of antibiotics on farm in order to avoid the inhibitors (antibiotics) presence in collected milk and prevent antibiotic resistance
- 💧 The **messages** :
 - have been prepared by Idele : 8 messages + 2 specifics to big herds
- For example : *I buy an antibiotic to treat my cow, I ask to my pharmacist the time before I can deliver the milk.*
 - will be completed and validated by OEP/ENMV/DGSV .
 - will be translated in Arabic to be understood by farmers.
- 💧 For **prototype** :
 - Sms will be sent by technicians (not still validated by the general direction and technicians)
 - Not by an automatic system to reduce costs
- 💧 **Analysis** the impact of the prototype:
 - > feedback : did you receive the sms, did you read it, did you understand it, have your practices changed and how?

Objectives : study which technical can be further used and how to automate the system.

💧 **Since the last mission in February 2020, we have done about 7 teams meetings with OEP and ENMV in order to discuss :**

- 1 - the evolution of the sanitary situation in Tunisia
- 2- the adaptation of the work program
- 3- the elaboration of different scenari
- 4- definition and the aims of the next mission

**Analysis of OEP's Bulk Milk
Somatic cell Counts
database**

**Analysis of ENMV'S
Etiological database**

**Analysis of OEP's inhibitors
database**

**socio/epidemiological/Etiological
Surveys**

AS SOON AS VISITING
FARMS IS POSSIBLE

Field actors' training plan

MISSION

Contents validation -
deployment

SMS

Synthesis

Depending on the evolution of the sanitary situation in Tunisia, different scenari are possible.

-> depending when the next mission in Tunisia will be possible.

	2021			2022											
	oct.	nov.	déc.	jan.	féb.	mars	apr.	may	jun	jul	aug	sept	oct.	nov.	déc.
Scenario 1		X													
Scenario 2					X										
Scenario 3								X							
Scenario 4													X		

Scenari 3 and 4 : not possible to finish before the end of 2022.
Synthesis en 2023?

[illegible]

	2022											
	jan.	féb.	mars	apr.	may	jun	jul	aug	sept	oct.	nov.	déc.
Scenario 2	X											

[illegible]

	2022											
	jan.	féb.	mars	apr.	may	jun	jul	aug	sept	oct.	nov.	déc.
Scenario 3				X								

[illegible]

- **Waiting for the evolution of the sanitary situation:**
- **All the WP2 partners (Tunisian and French) are ready to mobilize themselves to continue the work of WP.**
- **All the documents (surveys, analysis excel files) and protocols are ready.**
- **The next mission will allow to develop according to plan:**
 - The training for veterinarians and technicians on "controlling the quality of milk"
 - the information dissemination to the breeders on the good use of antibiotics on farm by sending sms

WP2 - Innovative QMP practices in Tunisia

Discussion, brainstorm



MilkQua

- 💧 **How to (better) valorise results/data?**
- 💧 **What can we improve?**
- 💧 **How to better cooperate?**
- 💧 **What potential innovations derived from the WP can we expect?**
- 💧 **How to improve relevance of activities for stakeholders?**
- 💧 **What to expect from other WPs?**