

Application of electrolysed water as a substitute for iodophor disinfectants, for the prevention of mastitis on dairy farms.

Summary

Mastitis is currently the most common and concerning disease in dairy farming, as it represents almost 40% of total cow disease, being the main cause of financial losses, for both farms and the industry as a whole. In terms of production, it can account for up to 60-70% of total farm losses.

The main cause of mastitis is poor hygiene in milking. For this reason, particular care is given to teat hygiene in this phase. To date, the hygiene and disinfection technique has used chemicals, especially the iodophor group. The main problem in its use is it raises iodine content in the end product, with a positive correlation having been found between higher iodine content of milk and use of iodine-based preparations pre- and post-dipping.

Thus, a strategy is required that reduce the source of iodine in milk while not affecting cattle welfare. This project consists of experimenting with the use of electrolysed water for the control of mastitis, determining the technical-economic viability of its use as a teat sanitising and disinfecting agent in milking, as a substitute for chemicals such as iodophors.

Objectives

The main objective of the project is to use an alternative method (electrolysed water) as a substitute for iodine-based disinfectants used in the farm pre- and post-dipping for the disinfection of cattle teats and prevention of mastitis.

Specifically, the project aims to:

- Characterise the level of mastitis defection in dairy farming as a whole, during the initial project phase and subsequent control.
- Validate the efficacy of new technology in dairy farming during the pre- and post-dipping phases throughout the different seasons of the year.

Description of the measures planned in the project

The measures planned in this project are as follows:

- 1) Initial characterisation and regular control of the level of mastitis in dairy farming as a whole.
- 2) Technical analysis and determination of a new application process for the alternative disinfectant in the milking phase. Adaptation of the facilities and pilot test.
- 3) Validation of the efficiency of the new technology during the different seasons, and drawing up of a new disinfection protocol suitable for farms.
- 4) Transfer and dissemination of results.

Expected results and practical recommendations

The expected results are:

- Providing an alternative system for disinfecting dairy cattle teats.

- Reducing the use of iodine-based disinfectants.
- Reducing the microbial load of teats.
- Lower rate of mastitis in dairy farming.
- Lower iodine content in milk, preserving animal welfare.
- Higher farm profits.

Leader of the Operational Group

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Other members of the Operational Group (not recipients of the grant)

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Subject area(s) of application

- Agricultural production system
- Agricultural practice
- Agricultural equipment and machinery
- Livestock farming and animal welfare
- Vegetable production and horticulture
- Landscape / Territorial management
- Pest and disease control
- Fertilisation and nutrient management
- Soil management
- Genetic resources
- Forestry
- Water management
- Climate and Climate Change
- Energy management
- Waste and by-product management
- Biodiversity and environmental management
- Food quality/processing and nutrition
- Supply chain, marketing and consumption
- Competitiveness and agricultural and forestry diversification
- General

Geographical area(s) of application

PROVINCE(S)	REGION(S)
Girona	El Gironès

Dissemination of the project (publications, seminars, multimedia, etc.)

All members will carry out project communication and dissemination activities, including:

- Participation as speakers at dissemination seminars (Ministry of Agriculture, Livestock, Fisheries and Food, intersectoral and other events)

- Publication of scientific and technical articles on the actions carried out in the project.

Project website

There is currently no project website available.

More information on the project

PROJECT DATES	TOTAL BUDGET
Start date (month-year): 11-2019	Total budget: €198,389.77
Completion date (month-year): 07-	DARP funding: €79,157.52
Current status: Underway	EU funding: €59,715.32
	Own funding: €59,516.93

With funding from:

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Order ARP/133/2017 of 21 June, approving the regulatory bases for grants for cooperation for innovation by promoting the creation of European Association for Innovation operational groups in the areas of agricultural productivity and sustainability and the execution of innovative pilot projects by those groups, and Resolution ARP/1531/2019, of 28 May, announcing the call for the grant.

