Maria Chiara La Mantia

KEY-WORDS:
IMMUNE SYSTEM · ANIMAL HEALTH
AND WELFARE · CALVES ·

PROFILE
I am a first-year PhD student on the Agro-Food System.
Through my research experience at Council for Agricultural Research and Agricultural Economy Analysis (CREA), I learnt the value of knowledge in the zootechnical sector. In particular, I focused on studying biological aspects of ruminants and monogastrics.

AFFILIATION
Department of Animal science,
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LANGUAGES

Mother language

Level C1

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PhD Supervisor
Dr. Giovanna De Matteis (CREA)

PROJECT TITLE
Evaluation of the immune response in calves to improve animal health and welfare

Steps of the research

- Assesment of flow cytometric multicolor panels to characterize calves' immuno-system;
- Application of the flow cytometric platform to perform the absolute counting of lymphocytes and monocyte subsets;
- Longitudinal profile evaluation of the immuno competence in calves from different genetic groups;
- Assesmento of the oxidative status and Vit D levels in newborn calves;
- *In -vitro* experiments to evaluate effects of adjuvants (LPS, vitamin D) on Peripheral Blood Leucocytes;

Expected Results
Determination of innate and adaptive immununological profile in calves from birth to weaning.
Comparison of the immune competence in calves from different breeds.
Evaluation of the effect of vitamin D in improving the immune response to infections.

Research Contribution
This project contributes to identify the most disease-resistant animals and breeds, particularly in the early stage of growth.
In addition it improves strategies to prevent diseases and reduce the use of antimicrobials.

Collaborations
CREA, Council for agricultural research and economics.
(PhD Supervisor G. De Matteis)

Why should you care?
Calves are exposed to various stress factors that lead to decreased animal welfare and efficiency losses. This means an increased environmental impact and higher costs for farmers. However, it is necessary to investigate the immune response to prevent and control the risk of disease, so improving animal welfare.