

Press release

11th October 2021

RUMIGEN will explore the improvement of ruminant breeding through genomic and epigenomic approaches

RUMIGEN is a Horizon 2020 project launched 1st June 2021. RUMIGEN will run until May 2026 and is coordinated by Eric Pailhoux from INRAE. The project gathers 18 different partners across 9 countries with 13 academic and 5 commercial partners with two pan-European organisations representing the animal breeding sector and animal production researchers.

“The main objective of RUMIGEN is to improve genetic tools in bovine breeds through addition of new traits such as heat tolerance, and epigenetic information” states Eric Pailhoux.

RUMIGEN aims to produce robust and efficient cattle that can **manage** the trade-offs between production and **adaptation** to extreme climate conditions such as heat stress, reduced feed qualities and quantities, and disease pressures. The project is designed with a multi-disciplinary approach that mixes competencies in both genetics and social sciences. The genetics approach aims to improve genomic selection using three levers: *quantitative genetic, genome editing and epigenetics*.

The quantitative genetic lever aspires to **enlarge the selection criteria**, with, for example, environmental effects and biodiversity preservation, to increase **animal resilience** towards climatic changes. The genome-editing lever will explore and evaluate the **opportunities and risks** of genome editing in ruminants. For this lever, a “room of acceptance” will be developed by retrospective analyses of debate on gene technology by a cross-European citizen survey in at least 8 European countries. Finally, the epigenetic lever aims to develop epigenetic biomarkers that can be integrated to **refine genomic selection** equations.

The social sciences approach is involved in proposing selection methods and objectives accepted by European citizens. Regular multi-actor workshops, focus groups and webinars will be organised to create feedback loops with consumers and citizens and invite them into dialogue. The outcomes will provide a clear picture of the societal reception of the future breeding approaches and thereby create an impact.

Overall, RUMIGEN aims to develop new breeding strategies to help ruminants adapt to climatic changes and to their deleterious effects in a demarche that will closely associate with civil society.

Project Coordinator

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For more information or press contact visit: <https://www.rumigen.eu>, we also invite you to sign up to our emailing list [here](#)



The RUMIGEN project has received funding from European Union's Horizon 2020 research and innovation program under Grant Agreement No 101000226. This publication reflects the views only of the author, and not the European Commission (EC). The EC is not liable for any use that may be made of them information contained herein.