

Doctoral position: Economic evaluation of genomic selection in France

Project duration

36 months

Starting End 2025 – early 2026

The project

Several cattle breeds currently benefit from genotyping technologies in France. The technical feasibility and acceptability of these technologies by breeders have been evaluated but limited data on their economic impact is available. The economic benefits of genomic selection must be assessed over a relatively long time frame that incorporates changes in the biological and economic environment, taking into account various health, technical, social, and economic indicators. Dynamic and contextualized modeling of dairy cattle systems and a holistic representation of livestock functions (health, reproduction, culling, etc.) are essential for a rigorous economic assessment of the deployment of genomic selection in livestock farming.

The PhD project aims to evaluate the impact of genomic selection on the economic performance of dairy cattle farms in France using a simulation approach (mathematical programming). It will be based on the Dairy Health Simulator® (DHS®) simulation model and will be link to the EcoGeno project (scenarii, data, validation). The modeling approach will provide precise and operational answers to support decision-making regarding genotyping strategies for the detailed management of dairy cattle herds.

Your profile

Applicants should have recently obtained a Master in animal sciences or economics and should have shown interest in agricultural, environmental, animal or health fields. The candidate should have a background in computer science, data management, and qualitative methods. An experience in interactions with professionals in animal genetics, health or technical advice (farmers, private sector, policy makers ...) is most welcome. Computational skills and excellent English language and social skills, are required. International experience is an asset.

Your benefits

The doctoral researcher will share his time between Paris and Toulouse, France. He/she will be part of the economic department of the French Livestock Technical Institute IDELE and also of an international team specialized in economics of animal health. He/she will benefit from our agile management system and will have the opportunity to participate in many research activities (seminar series, conferences) and attend executive education sessions. He will also deeply interact with, the joint stock company APIS-GENE and all the scientific team of the project ECOGENO, including researchers in animal science, health management, genetics ...

Salary will be commensurate to experience, and benefits (health and vacations) and follow French regulations. Senior faculty members will provide guidance to navigate in academic environment and entrepreneurship and the candidate will have the opportunity to participate in meetings involving renowned experts in economics and animal health worldwide.

Our groups

The French Livestock Institute (**IDELE**) is a technical institute, approved by the Ministry of Agriculture, that aims at improving the competitiveness of herbivore livestock farming and its sectors in a constantly changing context. Its work provides technical and innovative solutions to cattle, sheep, goat, and horse breeders and to stakeholders in the sectors. It provides answers to societal questions and current issues, serving stakeholders in the livestock sector as well as public interest.

Veteconomics is an enthusiastic international group of researchers dedicated to the improvement of livestock and farmers well-being. We use innovative analytical tools to address modern challenges of economics of animal health:

- Assessing human decision-making with empirical and data-driven work
- Evaluating the impact of public policies in the animal health sector, at micro and macroeconomic scales;
- Working transdisciplinary by combining computer science, systems approaches, epidemiology and economics;
- Understanding epidemic dynamics, using modelling and computer simulation of complex animal and human interactions.

We are based on the gorgeous campus of the National Veterinary School of Toulouse. Our research team is integrated to The French National Research Institute for Agriculture, Food, and the Environment (INRAE), the CIRAD, which are public research organizations under the dual authority of the Ministry of Agriculture and the Ministry of Research. The institutes are among the world leaders in agricultural and food sciences, in plant and animal sciences.

APIS-GENE was founded in 2003 at the instigation of the ruminant sector. The French joint-stock company seeks funding for investment, innovation, and development in order to finance, guide, and define research programs in ruminant genomics (sheep, goat, and cattle). APIS-GENE brings together professionals from the ruminant sector. Its four main funders are CNIEL (dairy sector), Interbev (meat sector), Eliance (livestock services and consulting), and CNE (production). It continues its public-private partnership in close collaboration with INRAE within the GIS Avenir Elevages (About Livestock).

Find more:

<http://idele.fr/>

<http://www.envt.fr/>

<https://veteconomics.envt.fr/>

<https://dhs-teaching.envt.fr/>

<https://veteconomics.envt.fr/dairyhealthsimulator/>

<https://medpopbov.envt.fr/dairyhealthsimulator/>

<https://apis-gene.com/>

We look forward to receiving your online application in a single pdf with the following documents: letter of motivation, CV, university transcripts, two academic references (optional).

Please send the documents to: boris.duflot@idele.fr; didier.raboison@envt.fr ; ahmed.ferchiou@envt.fr

Application close: 15 nov 2025. *Candidates are invited to apply as soon as possible.*

Our reference : 2025-PhD-EcoGeno