

GENomic management Tools to Optimize Resilience and Efficiency

Precision Animal Breeding: a solution for future livestock production

With a predicted 9 billion world population by 2050 we need to utilize all evidence-based technologies to maximize production and its sustainability.

Genetics applied to improve efficiency and resilience in livestock farming has a key role to play in this field.

Background

Cattle farming is becoming **increasingly challenging** given **climate change** and an ever **increasing demand** for meat and milk. The livestock industry needs to **better use animal resources** improving **animal welfare** and farming **sustainability** at the same time. The

It is difficult for farmers to identify **which animals to keep and breed** to **best 'fit'** their farm, the production system and economics, and the prevailing climate. This implies finding the **right trade-off between resilience and efficiency**. The GENTORE project is developing decision support tools based on genetic data and on-farm monitoring technologies that will enable farmers to identify their most efficient and resilient cattle in a full range of systems (beef, milk and mixed; conventional and organic).

Project solution

Providing the farmers **an easy to use decision** support **tool** incorporating genetic and current performance data, which allows **ranking** their cows according to the **expected lifetime efficiency in their local environment**, thus enabling them to quickly and more accurately **select the best to renew the herd**.

> Selecting cattle for resilience and efficiency offers an opportunity to keep fewer but more efficient animals, thus allowing reduction of both the carbon footprint and greenhouse gas production coming from the EU cattle sector.

Problem

Social impact

Stakeholder cooperation to encourage the use of the tools developed by GenTORE will be essential:

Farmers and producers:	using the practical tools as an aid for culling and breeding decisions;	
The breeding industry:	making sexed semen available at competitive rates;	
	providing training and advisory services to organizations serving farmers (by regional funds).	
Institutions:	provide incentives for sharing animal- and farm-level data; linking subsidies/commercial premium payments to the use of decision supp tools based on best practice.	ort
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For further information see: https://www.gentore.eu/project.html

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