



Livestock genetics and climate change

Climate change is in the news on an almost daily basis and in this context, livestock production as one of the drivers is in the focus of the public and policy makers. Following ERA-NET SusAn's second 2018 Joint Call with the ERA-NETs FACCE-ERA-GAS and ICT-AGRI on “**Novel technologies, solutions and systems to reduce the greenhouse gas emissions in animal production systems**”, ERA-NET SusAn joint forces with the JPI on Agriculture, Food Security & Climate Change and organised an Exploratory Workshop on “**Phenotyping/Genotyping and Novel Breeding Techniques for adaptation and mitigation to Climate Change in the livestock sector**”.

The workshop was held on 21st November 2019 in Brussels and more than 40 participants from 10 different European countries representing research, stakeholders and policy makers followed the invitation to explore possible **research gaps** in Europe. The **needs** and **challenges** of major **stakeholders** including policy makers, and the exploration and identification of **possible roles of ERA-NET SusAn** and **FACCE-JPI** to address them were other topics discussed in the workshop.

Introductory lectures by keynote speakers setting the scene from the research, stakeholders', and policy perspectives were followed by group discussions and the following provisional conclusions can be drawn:

- » phenotyping is the greater research challenge and more gaps need to be closed in this area
- » new phenotypes have to be defined for climate change scenarios
- » new species-specific traits have to be identified that allow for GHG mitigation and adaptation to climate change taking into consideration possible trade-offs
- » multidisciplinary approaches and/or interdisciplinary teams / networks are needed to identify measurements for new traits
- » proxies with a good trait correlation need to be developed where measurement of new traits is otherwise invasive, difficult or too expensive
- » re-examine coherence of public policies and market needs on a scientifically substantiated basis in order to keep pace with or even pioneer developments
- » animal genetic resources (local / rare breeds) can be a pool for relevant traits and associated genes for future use in other breeds
- » in the light of consumer acceptance, proof of concept of the new breeding technologies has to be verified and better communicated
- » targeted communication and dissemination strategies to transfer knowledge and inform the public need to be developed.

ERA-NET SusAn will take the conclusions and recommendations regarding future research topics into consideration for the development of its **Common Strategic Research and Innovation Agenda**. The statements regarding stakeholder involvement and communication, dissemination and exploitation will be used as input for an **update of the communication and dissemination plan** and when working towards **collaboration with other initiatives and stakeholders**.

More information: <https://ec.europa.eu/jrc/en/publication/impact-animal-breeding-ghg-emissions-and-farm-economics>