BRIEFING ON LIVESTOCK

LEADING IDEAS FOR PLANT AND ANIMAL HEALTH

SEFARI

LEADING IDEAS FOR BETTER LIVES

BIOMATHEMATICS AND STATISTICS SCOTLAND
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SEFARI stands for Scottish Environment, Food and Agriculture Research Institutes – it is the collective of Moredun Research Institute; Scotland's Rural College; The James Hutton Institute; Royal Botanic Garden Edinburgh; The Rowett Institute; and Biomathematics and Statistics Scotland. These Institutes work together to deliver unique and globally distinctive multi and inter-disciplinary research.

This collective delivers the Scottish Government funded 2016-2021 Strategic Research Programme (SRP) on agriculture, environment, food and land. **SEFARI** improves the flow of research findings and expertise between the Programme and policy, commercial and public users. **SEFARI** works alongside the Scottish Centres of Expertise on climate, water and animal disease.

SEFARI aims to deliver 'Leading Ideas for Better Lives', reflecting that publicly funded research in Scotland must ultimately deliver positive impact for individuals, whether in Scotland or elsewhere. Whilst this work takes place across a number of sectors, this briefing focuses on examples of Livestock research funded within the 2016-2021 Strategic Research Programme.

Improving livestock production efficiency

- Enhancing livestock breeding approaches for improving quality, health, welfare of animal, and reduced environmental impacts;

- Livestock genetic improvement using state-of-the art genetics and genomics tools;

- Supporting policy and improving economic resilience through livestock disease management and enhanced animal welfare;

- Improving the production efficiency of livestock and the quality and health attributes of livestock products.

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Livestock and human health

- Sustainable disease control in livestock through improved understanding of disease mechanisms and the development of novel diagnostic tools, vaccines and disease control strategies;

- Developing new products for improved animal health such as a new sheep scab diagnostic test and the first vaccine in the world that combats worms in sheep;

- Detection and monitoring of livestock and human disease risk in the environment, for example, zoonotic pathogens in water catchment areas;

- Preventing human disease through an improved understanding of how pathogens interact with the environment and the human food chain and links between human diet and health.

Climate change and sustainability

- Improving understanding of livestock disease epidemiology in response to a changing climate and farm management practices;

- Enhancing economic and environmental sustainability through the use of Integrated Management Systems and Precision Livestock Farming approaches;

- Reducing greenhouse gas emissions from livestock through improved production efficiency and animal health;

- Understanding benefits and trade-offs around livestock productivity, biodiversity and sustainability.