

The Animal Task Force seminar identifies its

Innovation Action Plan toward a sustainable European livestock sector

Improved resource-use efficiency is essential for the sustainability of the European livestock sector. The FAO-hosted initiative *Global Agenda of Action (GAA) for a sustainable livestock sector*, deals with improving resource-use efficiency on a global level. The GAA is of great importance to Europe. It puts livestock at the centre of a landscape of food, feed, fuel and nutrients. Europe has an important role to play in this landscape, with a wealth of knowledge, advanced technologies and good practices to transfer to the world. The Animal Task Force seminar 'Resource-use efficiency: implications for the sustainability and competitiveness of the European livestock sector' on November 7, 2012, identified an Innovation Action Plan with seven main focus points for innovation toward a sustainable livestock sector in Europe.

During the seminar, three central questions were addressed:

- How does Europe's livestock sector remain competitive in a context of growing resource scarcity and a need to address climate change?
- What are the opportunities and challenges to improve the European livestock sector resource-use efficiency?
- What would a European Agenda of Action for a sustainable livestock sector look like?

A competitive and sustainable livestock sector

Europe's livestock sector is relatively productive and already has high standards regarding environmental impact and animal welfare compared to many other production systems in the world. The livestock sector contributes to a safe and secure food supply in Europe and contributes considerably to the European economy. However, climate change will increasingly affect crop yields and nutrients and energy will become even more expensive. To maintain its competitiveness in a context of growing resource scarcity and the need to address climate change, Europe needs to produce more food with fewer resources. This is a double challenge: the *efficiency* of the *use* of resources must increase whilst at the same time improvements in the *way we produce* these resources (e.g. energy, N, P) must be made, so that the environmental footprints for inputs are reduced and the requirements for production (e.g. health, welfare, social acceptance) are fulfilled.

"Europe is a leader in technologies, and also on environmental efficiency. Europe can contribute to a more resource-use efficient livestock sector by sharing its knowledge and technologies with the world"

-Henning Steinfeld, FAO-

Research and innovation has made Europe's livestock sector as competitive and efficient as it is today. This investment in Research, Development & Innovation must continue in the future. Creating a supportive environment for research and innovation in the livestock sector can lead to ways of production that ensure the supply of safe and healthy food, reduce the emissions of greenhouse gases, are acceptable to society, contribute to a viable economy, and will be an example for the world.

Challenges and opportunities

There are many opportunities to create a more resource-use efficient livestock sector. Some possibilities:

Animal health and welfare has a direct impact on animal productivity and efficiency, and may also affect human health. Investments in breeding can result in more healthy and robust animals, which can adapt to a changing climate and require less veterinary treatments. New knowledge on health management can improve animal health and welfare, prevent losses and strengthen the position of animals in society.

Improving the use of existing *nutrients and energy* in the by-products of the whole food chain gives enormous opportunities. Bio-refinery of manure and re-use of residues for feed will lead to reduced waste and a lower need of finite and energy consuming chemical fertiliser. Manure will become a resource for the bio-based economy. Creating *smart links throughout the food* chain will decrease dependency on protein and mineral imports. Also breeding can ensure livestock that are better adapted to feed not useable for human food proteins, and in higher output per unit input.

By making better use of the existing arable area, both in use of grasslands and croplands, in producing more protein per ha, the EU can reduce its dependency on the import of plant proteins to feed the livestock sector. By using smart farming options at the same time C-sequestration and soil fertility can be optimised.

Climate change and livestock production are interrelated. Climate change will affect the sector and vice versa. Breeding offers opportunities for more robust animals that are better adapted to different climates and animals that have a lower GHG emission. Optimised feeding strategies can complement this by increasing the feed value so that the feed is more efficiently used and causes less GHG emissions.

All of these issues imply a *systemic approach* in which all parts of the livestock production value chain are addressed. It will be important for interdisciplinary research and collaboration to be developed further. The solutions can be found by cooperating both within and across the whole chain. Europe has an advantage over its competitors, not in terms of cost price, but in terms of integrated solutions and this can be exported by individual companies on the world market. Industry involvement in the research agenda is of utmost importance. New technologies, new skills and integrated approaches are needed to fully utilise the opportunities of the livestock sector for contributing to a sustainable Europe.

Toward a European Agenda of Action

To achieve the opportunities described above, Europe should focus on seven main points:

1. **Resource-use efficiency:** new research and innovations to improve the efficiency of resource use and optimise the available arable land in reducing dependency on protein.
2. **Residual resource management:** new integrated approaches and technologies to better use manures for energy (and nutrients) and residues of the food production and processing industry for feed.
3. **Climate & livestock:** new ways and tools for climate smart agriculture with more robust and efficient animals, and smart techniques to reduce GHG emissions.
4. **One health:** Integrated animal and human health approaches to improve both at the same time.
5. **New technologies for the farmer:** innovation, including improved soft skills, through knowledge exchange to create a stronger position of farmers.
6. **Smart aquaculture:** feeding & nutrition, breeding & selection, hedging and proper use of wastes, are part of a European Innovation Action Plan on sustainable livestock production.
7. **Livestock-based food chains:** integrated approaches and collaboration between the livestock sector and other sectors in and outside the food production chain to optimise the total value chain.

The necessary new skills in and for teaching, training and transferring should be developed in joint endeavours among the stakeholders of the various value chains, offering new opportunities but also challenges for universities, training centres, extension services and consumer organisations.

Footnote

The Animal Task Force promotes a sustainable and competitive livestock sector in Europe. We are a leading body of expertise linking European Technology Platforms and research providers for developing innovation in the livestock sector. The full report and presentations of the Animal Task Force seminar 'Resource-use efficiency: implications for the sustainability and competitiveness of the European livestock sector' can be found on our [website](#).