Livestock's broad bright side

Sustainable Animal Production CWG

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SCAR
Standing Committee
on Agricultural Research

Introduction

Livestock and animal-source food play an essential role in Europe's agri-food system, and will continue to do so in the future. However, challenges are manifold and embedded in complex systems. Livestock has considerable advantages to offer, and these must not be underestimated. A common strategy for the future of European livestock farming is key to an efficient transformation of the way food is produced and consumed today, as well as to a long-term commitment to work towards a sustainable livestock sector. It is suggested to give livestock more weight in the European Green Deal.

The CWG SAP's mission is to provide and work with a holistic view of livestock farming and the livestock sector. This not only requires an integration of different research areas like feed and feeding, breeding and genetics, housing, and health & welfare. Also, it directly interrelates with topics like food and nutrition security, biodiversity, emissions (incl. GHG emissions), and farm economy.
This approach, which is based on systems thinking, makes the task of the CWG SAP unique. At the same time, however, it demands exchange with initiatives working in related fields like animal health & welfare, food systems, agroecology or bioeconomy.
Last but not least, differences and commonalities between regions play an essential role in finding solutions for sustainable livestock production systems.

There is change ahead

In 2020, the members of the Standing Committee on Agricultural Research (SCAR), incorporating EU Member States and Associated Countries, stated in their Berlin Declaration that "(…) *a drastic transformation of the way we produce and consume food and exploit natural resources is necessary (…)*".
Whereas the issues related to today's livestock production are well documented and widely agreed, the overall value of livestock products and services are at risk to be neglected. The rural areas of Europe account for 83 % of the total EU area and are home to 30 % of its population (2018). About 40 % of the EU's total land area is farmland (2020).
Livestock is kept on about 40 % of all European farms and generates half of the agricultural income (2020).
In order to find a balance between economic, environmental and societal interests, the benefits of livestock production must not be underestimated. A sustainable livestock production will be part of the solution to challenges that the European agri-food system is facing today.

Livestock's contribution to a desirable future

A key element for viable rural communities

Livestock creates employment in rural communities in different ways, not only directly in regions with high stocking density. A significant part of agricultural land is marginal land where arable crops cannot be grown. Often, the only way to produce food from this land is livestock farming, and this shaped characteristic landscapes. Even though the direct value of livestock products diminished in these areas, its indirect effects of attracting tourism and recreation make the sector remaining significant.

A key element for biodiversity

According to the European environment agency (EEA), 50% of all species in the EU rely upon agricultural habitats, with grassland playing a major role. Livestock has a positive, direct impact on biodiversity when extensive grazing is used for landscape conservation. The indirect effects of grazing livestock on biodiversity have rarely been investigated.
Local livestock breeds contribute to resilience and regional diversity, also by providing genetic alternatives for regions with changing climate.

A key element for optimal use of limited resources

The maybe most illustrative way to describe the role of livestock in a sustainable system is by referring to a circular system that aims at closing nutrient cycles, and thereby optimising external input. It focuses on utilising the animals' ability to use residues and convert inedible biomass, including grass, into food of high nutritional value. In the context of a growing global demand for food and limited resources, it was estimated that this system would free up a considerable share of arable land. This would also enhance resilience.

A key element for reducing mineral fertiliser and pesticides while improving soil fertility

The (re)-integration of crop and livestock farming systems has great potential for sustainable production: Use of locally produced feed instead of imports, and use of manure instead of synthetic N-fertilizer can contribute to reduce greenhouse gas emissions. Integration of fodder crops in crop rotations favours crop diversity, which is an effective element in managing plant health and soil fertility. It may also enhance biodiversity and resilience.

A strategy to sustain joint commitment.

The EU's Farm to Fork Strategy indicates the direction towards which the agri-food system shall be transformed, and it quantifies a number of goals for 2030. However, a more detailed concept of a future agri-food system is not given, and it appears that the livestock sector has a higher potential to contribute to sustainable systems than is currently reflected in the strategy.

The European Green Deal could be complemented by adding a livestock strategy, with the Biodiversity Strategy as an example.

In most Member States, national strategies for livestock already exist. There is potential for a systematic exchange in this area.

Contributing to a vision of livestock farming in 2050

Agri-food systems, and livestock production systems as a part of them, are complex systems. The overall importance of livestock products and services needs to be better understood. Also changes in the perception of animal-source food and crises like global warming or the consequences of the Russian war on Ukraine would need to be considered in this respect. Alternative products, production systems and business models should be discussed with a more holistic picture in mind.

The strategies need to be versatile. Resilience will also be enhanced by diversity and adaptation to local conditions.

Attention must be paid to different scales. Different parts along the value chain must be considered, from primary production to consumption. This requires methods that can go beyond linear approaches.

Recommendations

a) Approach the livestock sector as part of a wider agri-food system. Research and strategic planning should contain systems thinking. Use a multi-actor approach to research and strategic planning whenever relevant.
b) Strengthen European research on livestock farming, as it will play a critical role in future agri-food systems. Support collaboration of Member States in this area.
c) Follow the three development paths outlined in the 5th SCAR Foresight Report: circularity, diversity and nutrition.
d) Support transdisciplinary research, also by enhancing its relative value in scientific careers.
e) Consider political and socio-economic science as at least as important for a transformation of livestock production as agricultural/technical components. A strong and coherent political food system framework is needed to ensure socio-economic sustainability.
f) Give highest priority to the development of a shared vision for future livestock production systems. Support collaboration of Member States in this area. Consider country-specific necessities. Utilise existing national livestock strategies to work towards a common European strategy.
g) Establish science-based methods (metrics) to evaluate the performance of livestock production systems with regard to their sustainability. In particular, a systemic approach to assess GHG emissions from agriculture is needed.
h) Ensure productive knowledge transfer. Incentivise and enable farmers to contribute to improve good practice. This includes the use of CAP instruments, for instance with regard to animal welfare.
i) Make short-term demands (e.g. demand for N-fertiliser) compatible with long-term goals (e.g. soil fertility; greenhouse gas mitigation). Include long-term projects in research programmes.

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