WORKSHOP REPORT

“From national strategies towards a common vision of livestock farming in Europe”

SCAR Collaborative Working Group on Sustainable Animal Production

5 – 6 November 2024,
INIAV Headquarters, Oeiras, Portugal

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CWGSAP
COLLABORATIVE WORKING GROUP ON SUSTAINABLE ANIMAL PRODUCTION

SCAR
Standing Committee on Agricultural Research

SCAR Collaborative Working Group on Sustainable Animal Production

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Cover image: Field trip to Companhia das Lezírias, 6 Nov 2024. Credit Bríd McClearn

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1. Introduction

The workshop entitled "From national strategies towards a common vision of livestock farming in Europe" was funded by the ERA NET SusAn and hosted by INIAV from 5 – 6th November 2024 at INIAV Headquarters in Oeiras, Portugal.

The specific objectives of the workshop were:

1. To contribute to a common vision of the future of livestock farming in Europe among the members of the SCAR Collaborative Working Group on Sustainable Animal Production, by coming to a common understanding of the following four topics
   a. Greenhouse gas emissions
   b. Biodiversity
   c. Circularity
   d. Resilience
2. To agree on common goals, discuss ways to achieve these goals and identify challenges

49 persons from 15 countries attended, comprising CWG SAP members from across Europe, invited experts and workshop facilitators. Following keynote presentations on day 1 that set the scene on efforts at both European and national level to establish a vision and strategy for the livestock sector, participants engaged in lively discussions and debates around the four identified topics in dedicated break-out sessions. Reporting back from these sessions in the plenary on day 2 led to further engaging discussions and refinement of the core ideas.

The workshop was moderated by Órlaith Ní Choncubhair and Raymond Kelly, TEAGASC.
RefreSCAR support: Órlaith Ní Choncubhair and Bríd McClearn

Key presentations:

1. Opening address – Susana Astiz, INIA, ES
2. Keynote, DG AGRI perspective – Valerio Abbadessa, DG AGRI
3. Keynote, Strategic Dialogue – Brigitte Beyer, Strategic Dialogue group, EC
4. Keynote, Portuguese vision – Nuno Canada, INIAV, PT
5. Keynote, Finnish vision (Food Vision) – Heikki Aro, MTK ry, FI
6. Keynote, Danish vision (AgriFoodTure) – Peter Lund, AU, DK
7. Keynote, Irish vision (Food Vision 2030) – Finbar Brown, DAFM, IE

2. Opening address by Susana Astiz, SCAR CWG SAP Vice chair

Susana explained that livestock plays a critical role in achieving circularity and this concept is already at the heart of the European vision for sustainable production systems. Circularity means designing systems that minimise waste, recycle resources and regenerate natural ecosystems. Therefore, in livestock production this translates to practices where animals can turn inedible plant materials, like crop residues or food by-products, into high quality protein for human consumption but also into other high quality products such as wool, leather, or biofuels. This idea of circularity means creating a closed loop system where waste is minimised and resources are continuously reused, with livestock production being part of the solution. Europe's commitment to sustainable livestock farming is also aligned with goals for reducing greenhouse gas (GHG) emissions and mitigating climate change. Animal production is part of the source of these emissions but European farmers and scientists are working hard to reduce this impact.

She emphasised that we need to arrive at a common European strategy observing the diversity within Europe but working together and finding a common vision. This is about finding a common balance ensuring that livestock farming can be productive, profitable, resilient, social and respectful of our environment. Valuable initiatives include regenerative farming, rotational grazing, manure management, sustainable intensification, advanced technologies like precision farming and utilizing improved feeding strategies. It is a very ambitious vision that calls for collaboration across sectors, regions and countries, investment in research and innovation and calls for a commitment to support farmers as they transition to a more sustainable and circular production model. Through a united approach, Europe will set a powerful example of how we can produce food responsibly, sustainably and competitively while preserving resources for future generations. This is why the CWG have organised its 3rd workshop entitled '*From national strategies towards a common vision of livestock farming in Euro*pe' with the objective of developing a common vision/goal for livestock farming. Four topics were selected for the workshop; GHG emissions, Biodiversity, Circularity and Resilience. Susana encouraged everyone to actively collaborate, share their knowledge and experience to finally agree on the most common elements for a strategy.

3. Keynote, DG AGRI perspective – Valerio Abbadessa, DG AGRI, European Commission

Valerio Abbadessa outlined how DG AGRI is supporting and shaping European research and innovation on agriculture. He gave an overview of some of the challenges facing the livestock industry in Europe. Livestock numbers have decreased in the last 10 years, but at the same time milk production efficiency has increased and beef exports are expected to rise in 2024. Overall, there has been a reduction in emissions from agriculture between 2005 and 2021. There is a large variance between countries but mainly the reduction is due to a reduction in livestock numbers. There is a challenge in relation to generational renewal. Only 6.5% of farms are managed by people younger than 35 years. Furthermore, the gap between the largest and the smallest farmers has doubled.

He highlighted a number of key reports and initiatives, including the political guidelines of the von der Leyen Commission, the mission letter of the Commissioner Designate for Agriculture and Food, the Strategic Dialogue process, the next CAP post-2027 and the EU's Carbon Removals and Carbon Farming (CRCF) Regulation. He also highlighted the recommendations from the independent expert report on Horizon Europe and its successor Framework Programme calling for:

- A focus on competiveness
- Strong budget
- Radical simplification of the programme

The CAP and Horizon Europe work in synergy and there are lots of initiatives to make the most of research and innovation investment, e.g. Horizon Europe Partnerships.

Within the European Commission, a 'Feedback to Policy' plan was started three years ago involving co-creation with all the Directorate-Generals (DGs) to anticipate policy needs. A report will also be published in the coming weeks on research and innovation (R&I) solutions to improve the sustainability of European livestock systems. It is important to take into account more than scientific evidence, e.g. social and economic factors.

4. Keynote, Strategic Dialogue – Brigitte Beyer, SD group, European Commission

Brigitte presented the EC's strategic dialogue report process and outcome, 'A shared prospect on the future of farming and food in Europe', which was unanimously adopted by the members on 29th August 2024. 29 major stakeholders from the European agri-food sectors, civil society, rural communities and academia took part. She said our diversity needs to be seen as an asset and they developed 10 guiding principles. They assumed sustainable animal farming would be one of the most controversial areas of dialogue but it was the most constructive as the stakeholders involved wanted change in this area and worked well together.

5. Keynote, Portuguese vision – Nuno Canada, INIAV, Portugal

Nuno gave an overview of the agri-food sector in Portugal and presented the Portuguese vision on how they are working to differentiate food and add value. He explained there are two main forces; consumers and financial institutions that will push the change to sustainable food systems in Portugal.

Current challenges in Portugal have been identified. Recently, there have been two years of drought which has impacted on livestock numbers and more than half of all land has low stocking density. He also highlighted the importance of conserving native breeds. Since 2013, there has been a national strategy for conservation and improvement of genetics and a strategic agenda for empowering agriculture by innovation. Various research and innovation (R&I) initiatives have been established, such as innovation networks, collaborative laboratories (CoLabs) and competence centres.

6. Keynote, Finnish vision (Food Vision) – Heikki Aro, MTK, Finland

Heikki presented an overview of the vision for food production in Finland in 2040 developed by the Natural Resources Institute Finland (Luke) and the Low Carbon Roadmaps developed for Finland's economic sectors. Livestock, crops and fisheries are considered to form a whole using a local circular economy approach and cooperation. He outlined some of the challenges facing the agri-food sector in Finland – only approx. 25% of farms are profitable and the current political situation means it is difficult to secure financial support for investment in eastern Finland. Food safety is paramount. They are also focussing on climate-smart practices and technologies based on sustainable intensification, as well as the biocircular economy (biogas, biorefineries, biochar, recycled fertilisers).

7. Keynote, Danish vision (AgriFoodTure) – Peter Lund, AU, Denmark

Peter gave a presentation on AgriFoodTure, which is the Danish vision for the industry. It is a mission-based partnership that aims to accelerate the green transition of the Danish agri-food system and position Denmark as the leader for innovative, green solutions. AgriFoodTure aims to achieve a 70% reduction in greenhouse gas emissions in Denmark by 2030 and net-zero emissions by 2050. It contains five focus areas:

1. Animal-based food
2. Plant-based food
3. Land use
4. Biotechnology-based food production and alternative protein sources
5. Value chain aspects

Animals are considered to be at the centre, with the aim of creating the most climate-efficient animal-based food production in the world. Peter outlined the targets and some of the innovations being employed as part of a drive for solutions.

8. Keynote, Irish vision (Food Vision 2030) – Finbar Brown, DAFM, Ireland

Finbar presented Ireland's Food Vision Strategy for 2030. It is a ten-year strategy for the Irish agri-food sector developed using a 'food systems' approach, with four high-level missions at its core.

1. A Climate Smart, Environmentally Sustainable Agri-Food Sector
2. Viable & Resilient Primary Producers with Enhanced Wellbeing
3. Food which is Safe, Nutritious and Appealing, Trusted and Valued at Home and Abroad
4. An Innovative, Competitive & Resilient Agri-Food Sector, Driven by Technology and Talent

It takes into account primary agriculture, food and drink processing and manufacturing, fisheries, aquaculture and fish processing, forestry and forestry processing and the equine sector. It is the 5th stakeholder-led strategy since 2010. He explained that the strategy might not be relevant for every country but the process of developing this strategy can be useful. 32 members across all sectors contributed including producers, academics, researchers, agencies, advisers, food promotion agency, representatives of farm groups, etc. Ireland exports dairy and beef to 180 countries.

9. Breakout group 1: GHG emissions

B1.1 Intro: Livestock currently is a significant part of the agri-food system and livestock contributes substantially to the sector's GHG emissions. There is an urgent need for the livestock sector to be ambitious in its contribution to mitigate emissions.

B1.2 Goal: Agri-food systems must be carbon-neutral by 2050 (F2F Strategy, European Climate Law).

B1.3 Discussion

Animals, by definition, cannot be carbon neutral. However, if livestock can be seen not isolated but as a part of the agri-food system (holistic view), it is suggested to

a) Acknowledge livestock as a part of agroecological systems (e.g. grazing animals in combination with grassland) and take, for instance, the grassland's carbon sequestration into account.
b) Acknowledge livestock as an integral part of agri-food systems (e.g. livestock's ability to upgrade non-edible biomass like grass, crop residues or food waste into human food) that, given the right intensity, can increase the efficiency of land use.
c) Acknowledge livestock as a provider of a wider range of ecosystem services other than food, e.g. organic fertiliser at farm level or biodiversity at field or landscape level.

We should be aware of system boundaries and baselines, i.e. what 'happens' before biomass gets into the animal (how is the feed produced) and then further downstream (processing of animal products). A harmonisation of calculation methods is needed. In order to optimise the efficient use of agricultural land, a sustainable balance should be established between crops and livestock.

It will be difficult to accept negative side-effects of GHG mitigation on, for example animal health and welfare.

B1.4 Means

GHG emissions can be mitigated by using multiple tools, for instance

a) Reducing the emissions per kg product (intensification; technological or structural innovations)
b) Reducing the number of farm animals

The conditions to reduce GHG emissions are different between countries. We therefore do not recommend to formulate a detailed strategy for livestock. Instead, we are in favour of enabling each individual country to make best use of their potential to reduce GHG emissions, for instance:

- Denmark introduced a GHG tax for agriculture
- Ireland plans to reduce its cattle herds

B1.5 Challenges

- Different methods are used to measure GHG emissions. Different methods can lead to different results and conclusions.
- If the number of farm animals is reduced below national self-sufficiency, while national consumer demand remains at present levels, livestock will be produced elsewhere, thereby neutralising or even reversing national mitigation efforts.
- If the GHG emissions from livestock production are seen from a holistic perspective that regards farm animals as a part of the agri-food system, the contribution of the livestock sector to GHG emissions will appear more moderate compared to an isolated view of the livestock sector. However, carbon neutrality remains a considerable challenge even with this approach.

10. Breakout group 2: Biodiversity

B 2.1 Intro & Goal

Biological diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

The EU Biodiversity strategy 2030 and the Nature Restoration Law lay out a plan to restore habitats. Changes are needed not only to protect nature / avoid biodiversity loss (data already available) but also to reverse the degradation of ecosystems / restore biodiversity. A major part of Europe's land area is being used for agriculture. The Biodiversity strategy 2030 includes biodiversity on agricultural land. Depending on how farms are managed, they can be beneficial or detrimental for biodiversity. Nature provides services which agriculture depends on. At the same time, the farmers' stewardship is needed to protect nature.

B 2.2 Discussion & Means

- Biodiversity is considered as a public good with a responsibility within society. Farmers should be compensated for ecosystem services.
- Biodiversity should be increased at different levels. And both, domestic biodiversity and wildlife diversity should be considered. There is a wealth of data on the loss of biodiversity but we are lacking data in terms of the functionality or understanding of biodiversity and how it relates to, for instance, adaptation, selection, and resilience on different levels. This was also considering agri-food systems, not only the farm animal biodiversity but also the cultural diversity of the rural systems, which is also related to biodiversity.
- Food safety should never be risked when we think of biodiversity, e.g. an indicator could be rodents but no farmer would like to have rodents on their farm. If you have a diverse landscape, then self-regulating systems with birds of prey should be present and help with this issue. Diversification is the key word here again.

- Regarding diversity and animal health, it was decided to focus on the capacity of livestock to resist diseases based on the level of biodiversity they have, this is at the farm animal level and ecosystem level. A rich ecosystem should cope better with disease threats.
- Agricultural systems should try to lessen their negative impact through land use change and consider more how they affect biodiversity at a global level, e.g. imported soya from areas that have been deforested.
- The variety of the systems should be acknowledged, not all cattle systems are intensive. Some are part of extensive, sustainable grazing systems.
- We need to find a balance between food production and biodiversity. It is important that we can produce animal products on marginal land and respect the better land for 'direct' food production, i.e. vegetables. However, we cannot feed chickens and dairy cows only from grass, so this is a difficult compromise to respect.
- We need to optimise the positive impacts that livestock have on biodiversity too, and think about other species, not just cattle, pigs and poultry. Horses can be important for mountainous grazing and fish should also be considered.
- It is important to monitor biodiversity levels to ensure we are meeting targets – tools and indicators can be used for this. Legislation is a potential tool that could be used.
- The question was raised as to whether voluntary carbon markets and credits should include biodiversity measures, as this would be a way for the farmers to get paid for biodiversity. Examples were given of initiatives in Portugal (pilot scheme and greening programme) that are trying to do this.

11. Breakout group 3 Circularity

B 3.1 Intro

Circularity is a strategy to optimise the use of limited resources. Biomass is a regenerative resource but nonetheless limited. Biomass is used for a range of different purposes (e.g. food, feed, fuel, materials) and the demand for biomass will rise along with the replacement of fossil resources and a globally growing population. Therefore, the competition for the use of biomass will increase and this makes a sound strategy for its optimal use even more important.

Due to its ability to convert biomass of low nutritional value into valuable food, livestock can play a crucial role in circular agri-food systems.

B 3.2 Goals

- Increase the efficiency within circularity, minimise losses
- Feed as much people as possible from a given amount of biomass
- Prioritise 1. Food, 2. Feed and 3. Fuel and materials

B 3.3 Discussion & Means

- Circularity is a tool rather than a goal.
- The aim is to make best use of biomass of different qualities, also in cascading systems.
- The term ‘waste’ should be avoided as much as possible. All legal and safe sources of feed/food biproducts/waste should be explored.
- The quality of biomass in a circular system should be maximised by means of, for instance, pre-treatment or precision of harvesting machines.
- Circularity does not only concern the farm level. It also includes local, national and the European level.
- Solutions have to be found that are appropriate to the area, not every solution or product will suit every region.
- Data from Life Cycle Analysis on, for instance, emissions and economics should be used to quantify the options for biomass-use, also taking into account the processing and creation of additional by-products. Some larger scale models might be better than LCA for assessing circularity.
- The flexibility of the livestock sector to adapt to varying available biomass / new by-products will become more important in the future.
- The development of demonstration initiatives and models are important to test circularity at scale and disseminate existing knowledge.

B 3.4 Challenges

- Find the optimal circulation intensity (ecologically and economically sound)
- Establish an eligibility index for products for food and feed
- Define non-edible biomass
- Optimize nutrient recovery through animals
- Gather sufficient data to optimise circularity
- Find alternatives to LCA for assessment of circular systems
- Also use the nutrients and minerals from slaughterhouse offal, explore all legal sources, considering hygienic aspects
- Also take into account mineral resources such as phosphorus

12. Breakout group 4 Resilience

B 4.1 Intro

Resilience describes the ability of a system to cope with stressors by way of robustness and/or the ability to adapt and/or even the ability to be transformed.

European agriculture provides a high degree of food security and is therefore significant for Europe's overall security and resilience. Livestock generates about half of the value of Europe's agricultural production. Livestock farms exist all over Europe and across almost all geo-climatic conditions, from mountaineous areas to the coastal lowland regions, and from Mediterranean countries to Scandinavia. Accordingly, also employment and income related to livestock is widespread across Europe.

Livestock production systems have been adapted to their local conditions over a long time. A major part of the feed (e.g. grains and roughage), one of the most relevant resources for livestock farming, is produced on-farm. Farm animal manure is a valuable fertiliser for crops, and with the potential to replace (imported) mineral fertiliser. Several leguminous plants (e.g. red clover, lucerne) are both, valuable as animal feed and key elements in crop rotations to restore soil fertility and strengthen the resilience of crops against pests and diseases. Thus, livestock has a clear potential to support crop production.

B 4.2 Goal

Enhance the resilience of European livestock production and contribute to a resilient, sustainable food system in a changing world.

B 4.3 Discussion & Means

Resilience has different dimensions, for instance environmental, economic, social and health.

Social resilience includes the farmers' wellbeing, gender aspects and generational renewal. Family farms are resilient due to ownership, tradition and a feeling of identity. The farmers' knowledge should be recognised.

Diversification (of production systems/markets) is an important pillar of resilience.

Awareness, cooperation, communication and systematic feedback provide an environment beneficial for resilience.

Risk assessment is a prerequisite for building resilience. Indicators of resilience at the relevant levels need to be identified and monitored over time. Monitoring models to control and support adaptation can be used, e.g. biodiversity monitoring, disease monitoring and warning systems.

An integration of livestock in circular systems may require livestock production to be more versatile and less focussed on maximised yields of individual animals. However, it would also make livestock farming more resilient, as it would become part of a larger, more integrated system for the use of biomass, with a broader range of available feedstuffs.

B 4.4 Challenges

Finding the limits to an acceptible level of resilience, and recognising trade-offs to other sustainability categories (e.g. resource use efficiency). It is not possible to be completely resilient in all areas.

13. Summary and conclusions

Among the participants there was a common understanding of the topics and livestock's role within them. Livestock plays a significant role for all four topics, and there is considerable potential for livestock farming / the livestock sector to improve the sustainability of European agri-food systems. There was also wide agreement on the challenges and the complexity of the issues:

- There is an urgent need to reduce GHG emissions and livestock has an important role to play in it.
- There is a need for agreed and comparable assessment of GHG emissions.
- There is an urgent need to increase biodiversity and livestock has an important role to play in it.
- While nature requires its own space outside of agriculture, farming should be thought together with biodiversity.
- Farmers need to be consulted and empowered to reduce GHG emissions and increase biodiversity on their farms.
- There seems to be huge potential to optimise a circular bioeconomy, and livestock has an important role to play in it.
- There is a need to further develop the role of livestock in circular systems.
- European food production is significant for European security and resilience.
- There is room for better understanding and awareness of the topic 'resilience', also regarding the resilience of livestock farming itself.
- It is important to acknowledge that solutions to challenges may vary according to local or socio-economic differences across Europe.

It is necessary to further invest in research and innovation with the aim to transform the European livestock sector in a way that livestock is part of a solution for a sustainable agri-food system.

All four topics, GHG emissions, biodiversity, circularity and resilience, require consideration at multiple levels like animal, farm, region, or different dimensions like economic, environmental and social.

All four topics are interrelated and have potential interactions with further critical topics like, for example, animal health and welfare or food security.

Some interactions between GHG mitigation, biodiversity, circularity and resilience are:

1. Reduced global warming reduces stress on the agri-food system and the risk for extreme weather events, thereby reducing costs related to establishing resilience.
2. Reduced global warming contributes to reliable growing seasons and precipitation patterns, thereby supporting food security and stability.
3. Reduced global warming will support the preservation of biodiversity.
4. Rewetting agricultural peatlands (currently mostly used as grassland for cattle) will increase biodiversity and mitigate GHG emissions.
5. Biodiversity provides buffer zones and stability, thereby controlling pests and diseases, preventing natural disasters and increasing resilience.
6. By using resources more efficiently than linear systems, circular systems can preserve or make land available for biodiversity (extensification or rewilding).
7. Circular systems can reduce GHG emissions by making better use of limited resources, thereby preventing unnecessary inputs of land and energy to produce food, feed or fuel.

14. List of participants

First Name	Last Name	Country
1. Valerio	Abbadessa	Belgium
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12. Finbar	Brown	Ireland
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35. Brid	McClearn	Ireland
36. Olga	Moreira	Portugal
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