

A close-up photograph of a horse's nose, showing the nostrils and the surrounding skin. The nose is pinkish-red and appears to be resting on a dark, textured surface, possibly a wooden beam. A white rectangular box is overlaid on the image, containing the name 'SUSAN' in blue capital letters. The background is blurred, showing the horse's face and a dark strap.

SUSAN

SUSAN

European research area network on Sustainable Animal Production Systems

About

The longstanding activity of [SusAn](#) partners in a very wide and diverse community is one of the key features of the network and a pillar of its success. The SusAn consortium consists of 37 entities from 23 countries, representing the leading national funding bodies for research in the thematic field of this ERA-Net Cofund activity in the EU. The scope for this ERA-NET has been developed under the SCAR Collaborative Working Group on Sustainable Animal Production (CWG-SAP). Funding organisations from 23 European countries initially sought to support one co-funded call followed by other joint activities including the development of a Common Strategic Research and Innovation Agenda on Sustainable Animal Production.

Aims

SusAn aims to meet the challenges and complexities in sustainable animal production. These are to be addressed effectively through joint European research within a framework which supports the three pillars of sustainability - economy, environment and society - and targets opportunities for innovative research spanning all areas of animal production such as feeding and nutrition, reproduction, breeding and genetics, housing, nutrient management, health and welfare and economics. Partners in ERA-NET SusAn endorse scientific excellence and recommend an integrated, interdisciplinary, cross-cutting and multi-actor approach to research and knowledge exchange which reflects the complexity of the research requirements for sustainable European animal production.

Challenges

SusAn's view on the present status of European livestock production is as follows:

» Achieving global food and nutrition security has become a more complex and multifaceted challenge than in the first decades after World War II. The complexity of the European agri-food system means that livestock production is seen as a sub-system in a larger context.

» A significant part of present European livestock production systems compete for land and resources that can alternatively be used for e.g. growing plant based food or for nature conservation. Strategies for sustainable livestock farming must take existing trade-offs into account, for instance, food versus feed.

» Current overconsumption and food waste in Europe considerably contribute to excessive resource use, public health costs and environmental costs. These costs could alternatively be used to support sustainable practices, and as long as they are unaccounted for, they distort prices and interfere with market mechanisms. Sustainable production can only be achieved in a framework of sustainable consumption.

» Excessive intensification beyond nature's capacity leads to an unbalanced concentration and specialisation of livestock production, and to overconsumption of animal-source food. This has detrimental effects on farms, the environment and society. There is no universal solution that fits all

livestock production systems in Europe. Diversity of production and adaptation to local conditions should be increased rather than decreased, also to benefit resilience.

» Societal expectations about agriculture and food systems are high in Europe. The consumption of animal based food is high per capita and currently has a decreasing trend while consumption is increasing in other parts of the world (e.g. China, South East Asia). From this point of view, the European livestock sector may start development processes that could later also take place in other regions of the world.

» A shared vision of European livestock production is lacking, including its role for global health, and food and nutrition security. Furthermore, there is a need for concrete targets and corresponding evaluation methods (indicators, metrics).

» Strategies for future global food and nutrition security should not only look at increasing crop and livestock production in Europe. They should also take other aspects into account, for instance consumer behaviour, food loss and waste, inequalities in global food distribution, and the food sovereignty of developing economies.

» The European agri-food system as a whole, including livestock production, is currently not sustainable. Therefore, a fundamental change of the system is required. The next ten years are decisive for this necessary development.

SusAn selected the main challenges for European livestock production on the basis of the UN Sustainable Development Goals. Priority was given to the relevance for European livestock production systems. However, any effects outside Europe must be considered as well. This includes, for instance, GHG emissions, deforestation in countries exporting animal feed to Europe, as well as the effect of European exports on local markets of developing economies. Major challenges for European livestock production systems are:

- To achieve food and nutrition security
- To restrict emissions and nutrient losses
- To keep resource use within planetary boundaries
- To preserve and enhance biodiversity
- To support rural livelihoods
- To provide high standards of animal health and welfare

Key-messages regarding these challenges are that all challenges must be met simultaneously and in accordance with set targets, and that the challenges are interdependent and need to be tackled within a systems based approach in order to account for potential synergies and trade-offs.

Scope, goals and research topics

SusAn published a Common Strategic Research and Innovation Agenda in 2022. The strategic approach comprises five area's that can be used together as a strategy for R&I on livestock production systems.

Area 1: Develop a shared vision of European livestock production

A shared vision of a future food system (and the role of European livestock within it) is a prerequisite to efficiently redesign livestock production systems, develop a socio-economic framework to support them and to evaluate the system's performance.

Area 2: Design livestock production systems

The design of livestock production systems involves combinations of its basic components like animal health, animal nutrition, genetics, housing and manure management, to tackle the challenges. Livestock production must tackle several challenges, from local to global level, and it needs to use synergies and avoid trade-offs between them

Area 3: Support implementation of sustainable systems

Without societal facilitation, sustainable livestock production cannot be viable in practice. In order to enable Europe's food system to become sustainable, the existing political and socio-economic framework needs to be developed further, in line with the European Green Deal.

Area 4: Evaluate system performance

If a system is more than the sum of its components, the evaluation of a system must take an approach that is able to catch the system's essential properties beyond its components.

Area 5: Facilitate collective action

There seems to be agreement that a fundamental change of the European agri-food system will require concerted action of all stakeholders, in different fields and at different levels.

From a scientific perspective, priority should be given to:

1. Develop a shared vision of future European livestock production systems, based on scientific opinion and balanced stakeholder participation.
2. Establish science-based methods (metrics) to evaluate the performance of livestock production systems with regard to their sustainability.
3. Consider the notion that a coherent political and socio-economic framework that supports the implementation of sustainable livestock farming is at least as important for a transformation of the livestock sector as redesigning agricultural/technical system components.



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