The Role of Livestock in Circular Bioeconomy Systems

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Animal Task Force

Fostering knowledge-based innovation
for a sustainable and competitive
livestock sector in Europe

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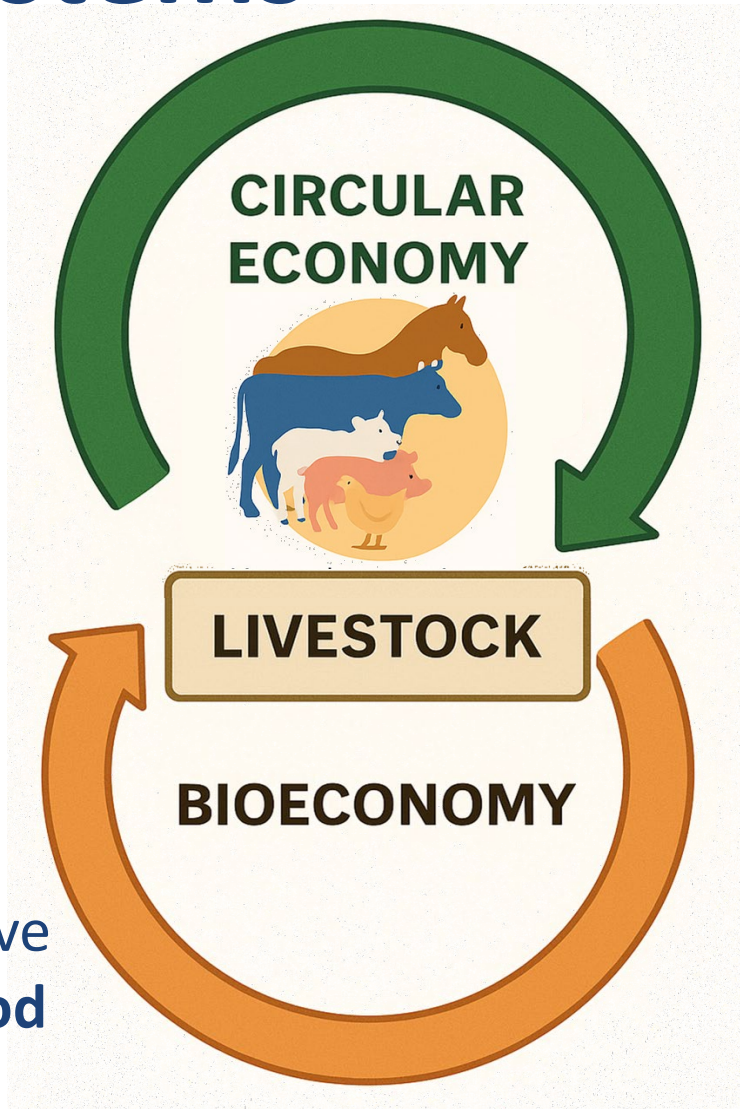
Introduction to CBE systems

Circular Bioeconomy (CBE) Systems:
Integrate biological resources and recycling principles to replace fossil-based systems in a circular and sustainability focused approach.

Optimize resource use by closing nutrient and energy loops, ensuring environmental sustainability.

Livestock systems are often viewed as linear and resource-intensive, but in a CBE vision, they **are a key component** and have an **important role to play in a circular and regenerative agri-food sector!**



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Redesign the role of Livestock!!

within sustainable agri-food systems, **with livestock as an essential component of the solution**

Livestock are key as they are recyclers by nature

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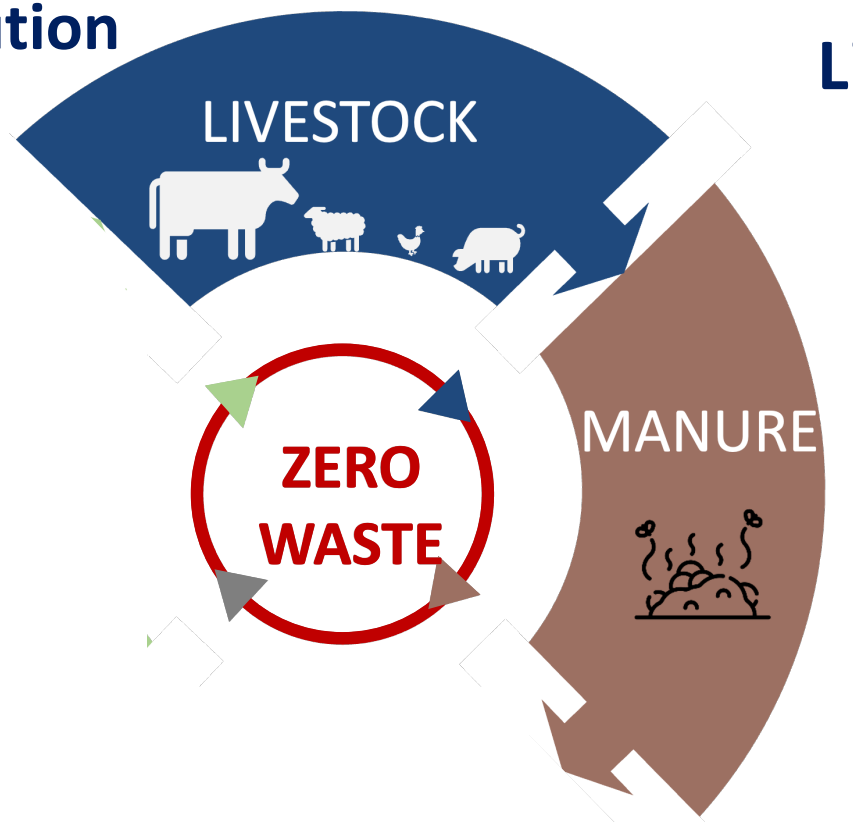

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- Livestock convert low-value biomass (e.g., crop residues, food waste) into high-value products like milk, meat, wool, and manure.
- Providing nature based organic fertilisers to close the nutrient cycles, producing biogas and digestate, reducing GHG emissions and providing renewable energy.

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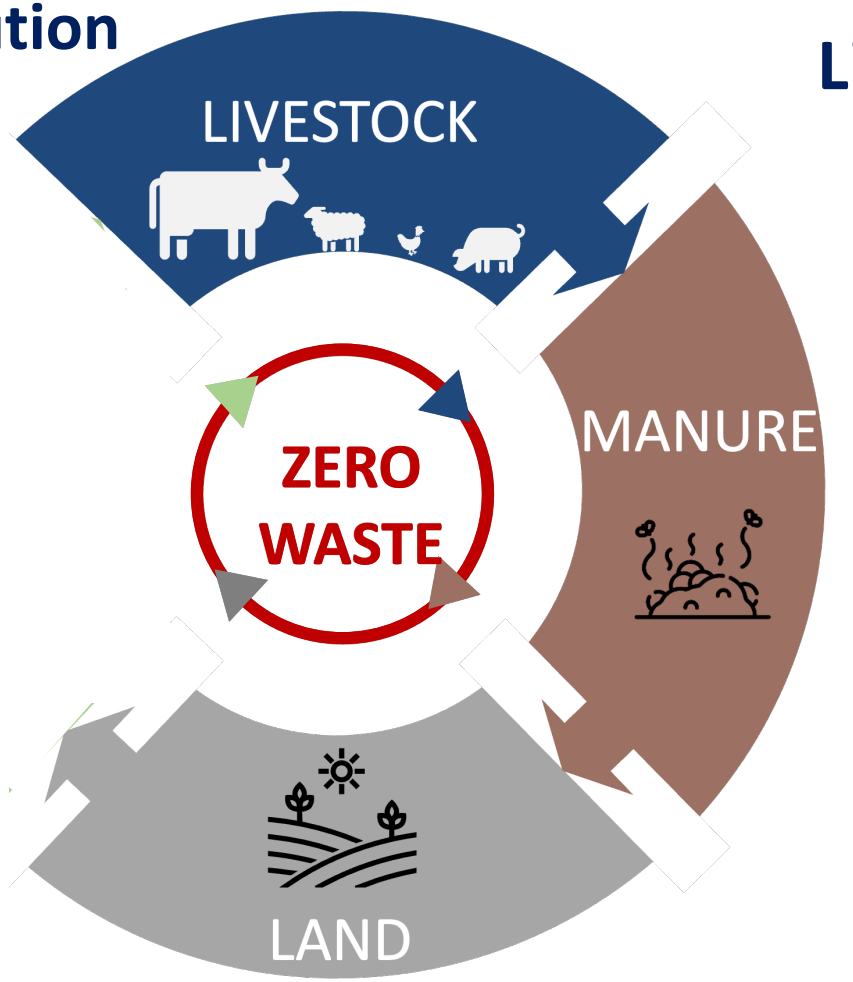

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- Providing ecosystem services

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- Providing nature based organic fertilisers to close the nutrient cycles, producing biogas and digestate, reducing GHG emissions and providing renewable energy.
- Providing ecosystem services
- Farms integrate crop and livestock systems to close the nutrient loop.
- Enhancing crop diversification with additional benefits

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Responsible livestock

By **responsible livestock** we mean livestock farming in circular and resilient agriculture **ensuring** food security **while**:

- keeping **resource use within the planetary boundaries**,
- promoting the **provision of ecosystem services and biodiversity**,
- **reducing the negative net environmental impact** associated with that production,
- providing **high welfare standards for livestock and wellbeing for farmers,**
- providing **better human health and well-being**,
- contributing to a **vibrant rural livelihood,**
- **increasing the ability of the sector to withstand** physical or financial shocks.

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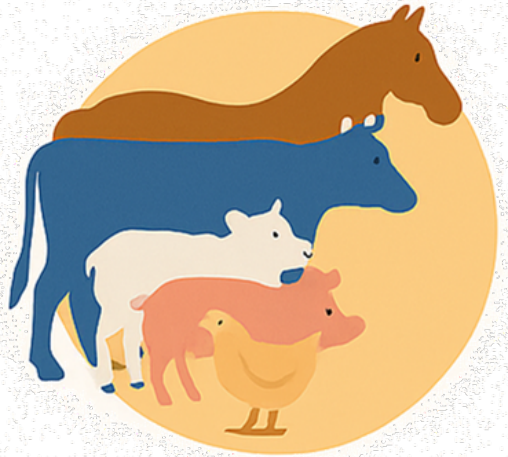
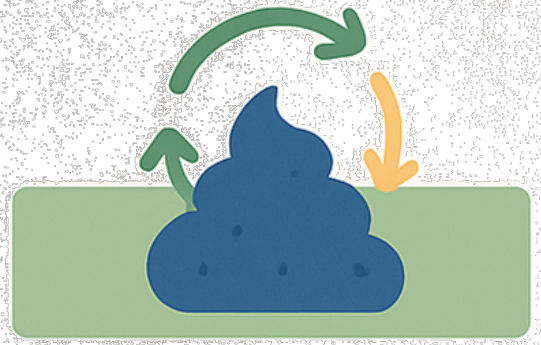
Take home messages

BIOMASS CONVERSION



Livestock convert low-value biomass into high-value products such as milk, meat and wool

NUTRIENT CYCLING



Manure replaces synthetic fertilizers and returns nutrients to the soil

AGROECOLOGICAL INTEGRATION

Crop-livestock integration enhances soil health and farm resilience

CHALLENGES

CH_4 and N_2O emissions, land competition, and waste management

Responsible livestock

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Who we are?

Private sector organisations

animalhealth europe
FABRE TP Farm Animal Breeding & Reproduction Technology Platform
FEFAC Experts in Animal Nutrition
FEFANA

Knowledge providers

AARHUS UNIVERSITY
SLU
INSTITUTE FOR ANIMAL HUSBANDRY Belgrade - Serbia
Wallonie recherche CRA-W
CSIC Consejo Superior de Investigaciones Científicas
INIA Centro Nacional Instituto de Investigación y Tecnología Agraria y Alimentaria
INSTYTUT GENETYKI I BIOTECHNOLOGII ZWIERZĄT Polskiej Akademii Nauk
Research Institute for Farm Animal Biology
INRAE
VÚŽV Institute of Animal Science
Biotehniška fakulteta petinsedemdesetletnica
AGRICULTURAL UNIVERSITY OF ATHENS
UK Agri-Tech Centre
crea Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria
Luke NATURAL RESOURCES INSTITUTE FINLAND
iniav
BIOS science austria
WAGENINGEN UNIVERSITY & RESEARCH
Agroscope
eagasc Agriculture and Food Development Authority
NMBU Norwegian University of Life Sciences

In close cooperation with

food for life
TPorganics
Plants for the Future European Technology Platform
EATIP
EUP AH&W
AGROECOLOGY PARTNERSHIP
GLOBAL RESEARCH ALLIANCE ON AGRICULTURAL GREENHOUSE GASES
eip-agri
FAO FIAT PANIS
EAAP European Federation of Animal Science
SCAR Standing Committee on Agricultural Research
GLOBAL AGENDA FOR SUSTAINABLE LIVESTOCK

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Input to EU R&I agenda: Horizon Europe

Policy brief on biodiversity 2021

Policy b… M…

Strategic Research & Innovation Agenda 2024

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YEAR 2025

Livestock farming systems in next generations:
can we imagine the future?

Joint session of the ATF & EAAP Commission on Livestock Farming Systems
EAAP Annual Meeting, 25th August
Innsbruck, Austria,

15th ATF Seminar
Brussels, 26th November 2025

The Animal Task Force online

animaltaskforce.eu

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