



Future of EU livestock: main conclusions of an EU financed study

CDG Animal Products – beef and veal

16 April 2021

The study

- In 2019 the Commission financed an external study that was carried out by Dr. Jean-Louis Peyraud (INRAE) and Dr. Michael MacLeod (SRUC).
- Study received in July 2020 and published the 14 October 2020
- <https://op.europa.eu/en/publication-detail/-/publication/b10852e8-0c33-11eb-bc07-01aa75ed71a1>
- The conclusions, recommendations and opinions presented in the report reflect the opinion of the consultants and do not necessarily reflect the opinion of the Commission.



The study

- The study has been presented and discussed in a workshop organised by the Commission the 9 March 2021;
- Very positive discussion with also some coherent messages among the different stakeholders;
- Very complex issue involving scientific, economics, cultural, health and ethical considerations.



14:00-14:15	Introduction by Ms. Maria Angeles Benitez Salas, Deputy Director-General, DG AGRI Mr. Giovanni De Santi, Director - Sustainable Resources, JRC
14:15-15:00	Session 1: STUDY ON FUTURE OF EU LIVESTOCK: HOW TO CONTRIBUTE TO A SUSTAINABLE AGRICULTURAL SECTOR? Chair: Mr. Peter Wehrheim, Head of Bioeconomy & Food Systems Unit, DG RTD The objective of this session is to present the outcome of the study and to give the opportunity to the participants to ask questions or to share their views on the topics addressed in the study. Link to the report: https://ec.europa.eu/info/news/commission-publishes-external-study-future-eu-livestock-2020-oct-14_en Jean-Louis Peyraud (INRAE), and Michael MacLeod (SRUC)
15:00-16:00	Session 2: SCIENTIFIC PANEL: FORESIGHT ON THE SUSTAINABILITY OF THE LIVESTOCK SECTOR Chair: Mr. Giampiero Genovese, Head of Economics of Agriculture Unit, JRC The objective of this session is to have the scientific view on a specific number of challenges and questions that the livestock sector is faced with: environment & climate, production systems, transport & animal welfare, diet change, dependence on soybean imports. Anne Mottet (FAO), Martin Scholten (WUR), Arne Astrup (Novo Nordisk Foundation), Alejandro Parodi (WUR), Mette S. Herskin (Aarhus University)
16:00-17:15	Session 3: STAKEHOLDER PANEL : DIFFERENT PATHWAYS TO A SUSTAINABLE LIVESTOCK SECTOR Chair: Ms. Brijette Misonne, Head of Animal Products Unit, DG AGRI This session is about the view of the farmers, the industry, consumers and environmental NGOs on the challenges that lay ahead towards a more sustainable livestock sector. This will be followed by an open discussion with all participants. Tiina Linnainmaa (COPA-COGECA), Geneviève Savigny (Via Campesina), Camille Perrin (BEUC), Marco Contiero (Greenpeace) and Cormac Healy (UECBV)
17:15-17:30	Concluding remarks by Mr. Wolfgang Bartscher, Director-General, DG AGRI
17:30	End of the workshop

Livestock sustainability – main messages from the study

1. Is it legitimate to talk about livestock?

- **Animal products provide 50% of protein intake in EU diet.** Animal based food are a unique source of or are very rich in several micro nutrients (B12, A, B3, B6 and D, zinc, selenium, calcium, phosphorus and iron) and various bioactive components (e.g. taurine) important for cognitive functions

2. What's the problem with livestock?

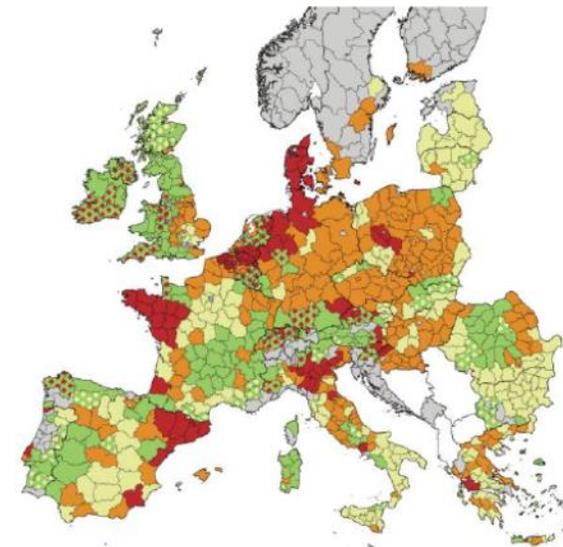
- Environment (soil, water & air), climate (GHG), health (chronic diseases, cancer), animal welfare

3. Can livestock be sustainable? Yes

4. Can the CAP help? Yes

Effects of livestock on the environment

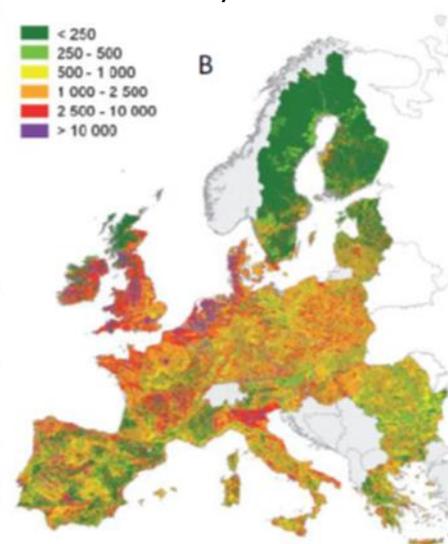
- **Local effects (air-water pollution)**
- Environmental impacts mainly result from the concentration of livestock in geographical areas (close to processing) due to specialisation (no more mixed crop-livestock systems) and scaling-up of production for cost reduction.
- Linked to highly regional production specialisation
- 73% of water pollution coming from agriculture is caused by livestock



■ Low proportion of grassland in agricultural area, high animal density
■ High proportion of grassland in agricultural area, high animal density
■ High proportion of grassland in agricultural area, medium animal density
■ High proportion of grassland in agricultural area, low animal density
■ Low proportion of grassland in agricultural area, low animal density
■ Less than 20% of agricultural area in total area

	Agricultural area million ha	% total	Livestock population million LU	% total	Stocking rate (LU/ha)
■	18.9	10.5	40.8	29.5	2.15
■	12.0	6.7	20.1	14.6	1.70
■	34.7	19.3	25.6	18.5	0.75
■	12.2	6.8	2.9	2.1	0.25
■	56.8	31.6	36.8	26.6	1.20
■	44.9	25.0	11.9	8.6	0.30

EU livestock systems



Nitrogen emission to aquatic systems

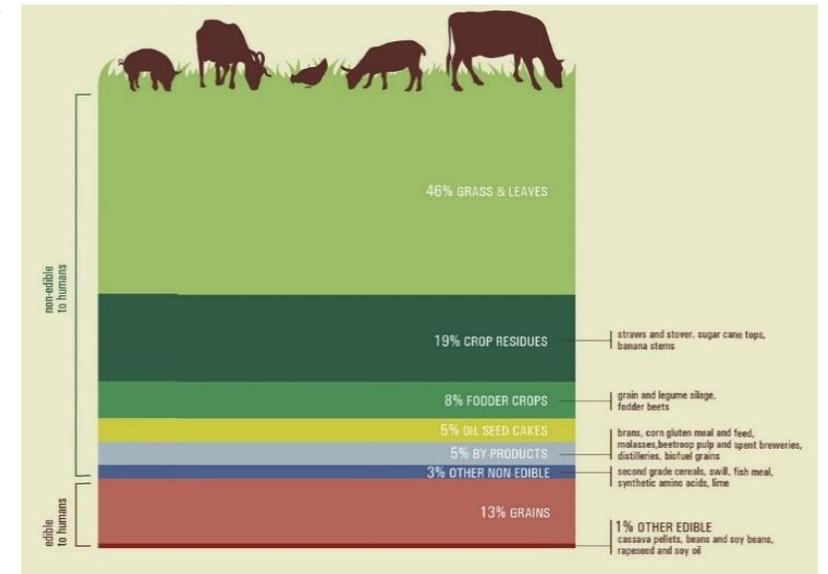
Effects of livestock on the environment

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- **Global effect (GHG emissions)**
- Agriculture represents 10% of total GHG emissions in the EU
- Livestock main source (81-86%)
- Efficiency gain allowed sensible reduction in the last decades, but the trend inverted in last years

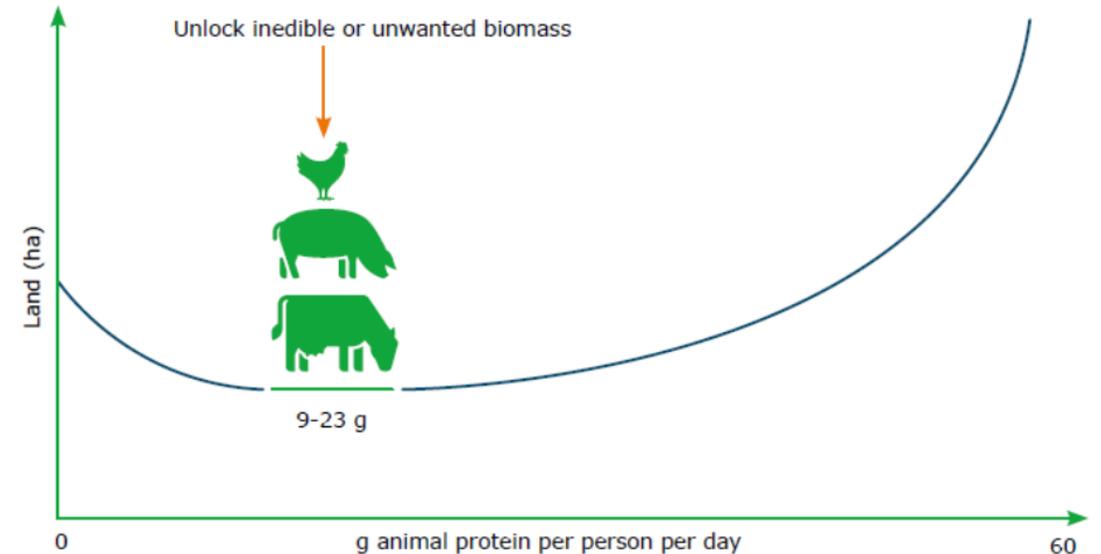
Livestock positive externalities

- Animals **convert nonedible biomass** into high nutritious food for humans. At world level, only **14%** of dry matter ingested by livestock is edible to humans (**86% is grass and crop residues**).
- Livestock farming produces food on **57% of land that cannot be used for crops** (marginal land).
- In addition to all the environmental and climate mitigation benefits highlighted above, livestock farming ensures rural vitality and economic activity in regions where it is the **only sustainable economic activity** and crop farming is not possible due to soil/climatic conditions.



Livestock is part of the circular economy

- Low-opportunity cost feed
- Livestock fed with grass, co-products, food processing by-products and part of the food wasted (35% of the total wasted food) could provide a significant, non-negligible, part (9–23 g/per capita) of EU daily protein needs (~50–60 g/per capita).
- In an optimized scenario up to 31 g/per capita
- Optimal land use



Wageningen University, 2018

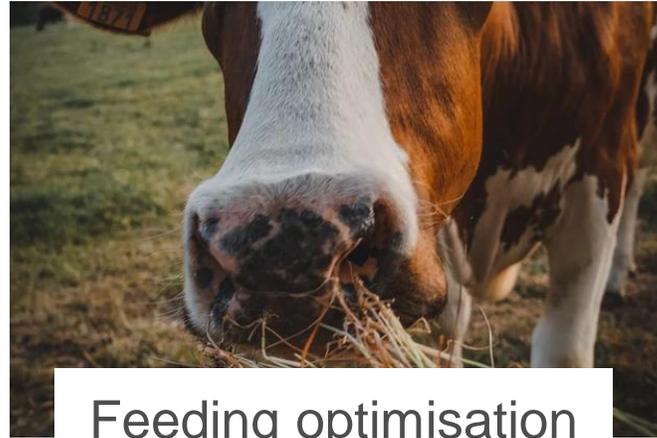
Livestock in economic terms

- From an economic point of view, livestock is crucial for EU agriculture. In 2017, it represented **40% of the total agriculture value** and European industries linked to animal production (milk and meat processing, feed for livestock) have an annual turnover of approximately EUR **400 billion**. Livestock farms employ around **4 million people** in the EU and livestock contributes to shape the EU farming system based on family farms: **58% of European farms hold animals** and the average livestock farm typically has 1 to 2 workers plus the family owner.

Examples of mitigating measures



Increasing efficiency



Feeding optimisation
and feed additives



Manure management

(+ biogas)

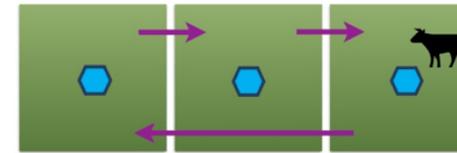
- **Breeding** for productive, healthy and fertile livestock can save in 2050 around 30 MtCO₂e only in the bovine sector (around 6% of total agricultural emission)

- Avoid **N surplus** in the ratio
- Feed **additives** (under approval) can reduce methane emissions up to 30%

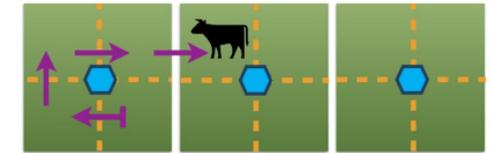
- **Biogas production** can lead (to a high cost) to a mitigation effect of 60 MtCO₂e/year. This represents more than 10% of all agricultural emissions

Examples of crop-livestock reconnection

- Measures:
- Rotational grazing
- Multispecies pasture (e.g. poultry after bovine)
- Agro-forestry (e.g. poultry plus olive trees)
- Grass-fed production valorised by consumers
- Temporary grassland with nitrogen-fixing pulses
- Increasing grazing period



Less-intense rotational grazing



More-intense rotational grazing



GRAZING COW MONITOR

Monitoring and managing the outdoor grazing of cows by GPS tracking within ultra-narrow band communication networks.

Way forward

- No "*one fits all*" solution for livestock sustainability exist
- local specificities (at regional, sub-regional, territorial and farm level) should be analysed and **for each situation the optimal solutions should be tailored**
- In the short-medium term, productivity, efficiency and technical developments (biogas, manure management, feed additive, breeding, rotational grazing) will play a key role, especially in intensive areas production
- In the long term a new vision need to be developed. It will be necessary to “redesigning the place and role of livestock within agri-food systems” by “(re)connecting livestock and crop production and enhancing the use of low cost feed (increase circularity) to reduce dependency from import for feeding and providing many environmental benefits by a better nutrient cycle management

Thank you